



Royal Commission on the Pike River Coal Mine Tragedy
Te Komihana a te Karauna mōte Parekura Ana Waro o te Awa o Pike

UNDER

THE COMMISSIONS OF INQUIRY ACT 1908

IN THE MATTER OF

**THE ROYAL COMMISSION ON THE PIKE RIVER COAL
MINE TRAGEDY**

Before:

The Honourable Justice G K Panckhurst
Judge of the High Court of New Zealand

Commissioner D R Henry

Commissioner S L Bell

Commissioner for Mine Safety and Health, Queensland

Appearances:

K Beaton, S Mount and J Wilding as Counsel Assisting

J Haigh QC, B Boyd and B Smith for Douglas White

J Rapley for Neville Rockhouse

S Moore SC, K Anderson and K Lummis for the New Zealand Police

N Davidson QC, R Raymond and J Mills for the Families of the Deceased

S Shortall, A Rawlings, A Glenie, D MacKenzie, A Gordon for certain
managers, directors and officers of Pike River Coal Limited (in
receivership)

C Stevens and A Holloway for Solid Energy New Zealand

R Buchanan for Fire Service Commission and West Coast Rural Fire
Authority

K McDonald QC, C Mander, and A Boadita-Cormican for the Department
of Labour, Department of Conservation, Ministry of Economic
Development and Ministry for the Environment

G Nicholson and S Steed for McConnell Dowell Constructors

G Gallaway, J Forsey and E Whiteside for NZ Mines Rescue Service

B Latimour for Coal Services Pty Ltd

N Hampton QC and R Anderson for Amalgamated Engineering, Printing
and Manufacturing Union Inc

**TRANSCRIPT OF PHASE TWO HEARING
HELD ON 15 SEPTEMBER 2011 AT GREYMOUTH**

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**COMMISSION RESUMES ON THURSDAY 15 SEPTEMBER 2011
AT 10.00 AM**

THE COMMISSION ADDRESSES MR MOUNT

5 MR MOUNT CALLS

DARREN MICHAEL BRADY (SWORN)

Q. Can you tell us your full name please?

A. Yeah, Darren Michael Brady.

10 Q. Do you have with you the brief of evidence that you filed with the
Commission dated 24 August 2011?

A. I do.

Q. For reference, that's document number SIM0001. And could I ask you
to begin reading that brief from paragraph 1?

15 A. Certainly. "I'm a tertiary educated chemist and member of the
Royal Australian Chemical Institute. I have 20 years experience as an
analytical chemist specialising in mine gas analysis and interpretation.
I'm the manager of SIMTARS Occupational Hygiene, Environment and
Chemistry Centre based at Redbank in the state of Queensland."

20 Q. If I can just pause you there, can I ask you to tell us a little more about
your experience with underground coalmining and in particular, gas
analysis following explosions in underground coal mines?

25 A. Yep, sure, well I've spent the last 20 years specialising in mine gas
analysis and the interpretation of those gases. I'm responsible for
SIMTARS mine gas monitoring systems, their ongoing development and
implementation and I've been involved in actually installing those
systems in Australia and overseas and helping the mines to implement
them including monitoring systems in our own mobile laboratory before
attending to such events.

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30 A. I'm also heavily involved in training the mining industry in spontaneous
combustion, explosibility and on how monitoring systems actually work.
I've authored papers on mine gas interpretation, the measurement of

mine gases and what's required, the information required after an emergency event and presented these in Australia and overseas. I also head-up our own emergency response team at SIMTARS that's set up to respond to disasters at coal mines and as such have attended mine explosions and spontaneous combustion events. I guess of late, I've been part of a task group that was put together to look at information and decision-making for re-entry after an event.

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Q. If you could keep reading your brief from paragraph 2?

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A. "SIMTARS is business unit of the Queensland Government's Department of Employment, Economic Development and Innovation. Following several mining disasters in Queensland, SIMTARS was established in 1986 to provide research, technology services and training aimed at reducing the risk of disaster events and minimising fatalities, injuries and occupational disease in mining and related industries. In an effort to reduce the likelihood of mine fires and explosions, SIMTARS has developed mine gas monitoring systems. One of these systems is safe gas. Safe gas is a supervisory control and data acquisition system known as a SCADA used to collect gas data, process it and raise alarms if gas concentrations exceed levels predetermined by the mine. Safe gas also allows for gas ratio calculations and the generation of trends of gas data used to identify the onset of fires. Providing the appropriate gases have been measured, safe gas is capable of determining the explosibility status at monitoring locations. SIMTARS connects safe gas to gas detection systems supplied by other companies that measure the gas concentrations. In June 2008, SIMTARS installed safe gas at the Pike River Mine. This safe gas system was connected to monitoring hardware supplied by Ampcontrol."

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Q. Just pausing you there. In June 2008, is it correct that Pike River was still at the stage of constructing the drift or tunnelling, effectively?

A. That's correct.

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Q. Presumably it was anticipated that there would be a need to expand the system once Pike River became a coalmine. Could you just tell us how the SafeGas system would work with that proposed expansion?

5 A. Yeah, and that's one of the reasons behind how its set up is that the mine is able to add additional sensors that connect into SafeGas. So it doesn't require SIMTARS to come back and connect, just shown how, and it has the capability of expanding up to however many different monitoring locations that are required.

10 Q. In the ordinary course, who would be responsible at the mine for connecting additional sensors to SafeGas?

15 A. I guess that will vary from mine to mine, and a lot of my answers will be in a Queensland context. It would be the ventilation officer who would determine that they were required and then it would go to an engineering division, probably electrical engineers, that would be responsible for connecting. It might come down to the electrician underground and then may a PLC person or someone with PLC experience on the surface to connect them in.

20 Q. So I take it there's no requirement for SIMTARS to be informed or kept aware of what particular sensors are connected to the system at any one time?

A. Not at all, no.

Q. If you continue from 2.4.

25 A. "The type of monitoring hardware installed at the Pike River Mine is often referred to as telemetric or real time. Telemetric systems measure the gases directly at the monitoring location and send a signal to the surface, which is displayed as a gas concentration. There is minimal delay in results with this technique as compared to other systems. SIMTARS had not been contacted by Pike River Mine with any request for significant assistance or trouble shooting with the monitoring system
30 for at least 12 months prior to the explosion on the 19th of November 2010."

Q. We've heard that there were plans to acquire a tube-bundle system at Pike River. Could you tell us how that system, if acquired, would have connected to SafeGas?

5 A. The front end that the operator would be looking at would be very similar to their real time information displayed, they've just toggled between the two real time and tube-bundle but there's more controlling of the tube-bundle system. The SafeGas system would dictate which particular sample stream was going through to the analyser and it has a lot more control, but it's essentially the same front end.

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Q. If you could continue from 2.5.

15 A. "SIMTARS has a mine emergency response team on call 24/7 to conduct gas analysis and interpretation in the event of a mine emergency in Queensland. This team makes use of gas monitoring equipment already established at the mine as well as SIMTARS' own gas monitoring equipment. One of my staff informed me that they had heard on an ABC radio news report that there had been an explosion at Pike River Mine. I immediately advised Mr Paul Harrison, the executive director of SIMTARS, of the reported explosion. Mr Harrison sent an email to Mr Doug White, the operations manager at Pike River, with an offer of assistance, in particular to provide gas analysis and interpretation in line with what SIMTARS would provide in the event of a similar incident in Queensland. I believe that Mr Harrison may have tried to make contact with Mr White by phoning his mobile but without success. An explosion depending on its magnitude and location may destroy a telemetric monitoring system, which was the type of system installed at Pike River Mine. Even if it withstands the explosion it may not be capable of measuring the high concentrations of gases such as carbon monoxide that are often generated by an explosion, hence the need for additional monitoring resources post explosion. It is essential that the underground atmosphere is known and understood before deploying rescue teams underground to conduct rescue operations. The data generated by the additional monitoring systems such as that

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used by SIMTARS assists in making decisions on whether re-entry is a safe option.”

5 Q. Just pausing there. If Pike River already had a tube-bundle system on the 19th of November, do I take it that that may or may not have provided additional information from the time of the explosion?

10 A. That’s – “may or may not” is the answer. It would depend on where the explosion was and what damage was done to tubes. You’ve seen evidence of the blast that comes out the drift. I would presume the best way of running the tubes would be back through that drift, the stone drift, and it’s quite possible that the tubes would be severed at that point, at which time monitoring post explosion would only be what was in the drift wherever the tubes were severed. So as far as information immediately available, it would depend on the integrity of the tubes. For instance, at Moura No. 2 we had a problem with the tubes being severed and you don’t know where they’re monitoring from, so we still needed additional boreholes. But you would have an analysis system, the hardware, on site, which is what we finished up procuring, was a tube-bundle system and there may have been access to tube-bundle which had to be sourced from elsewhere.

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Q. Right, please continue from 2.8.

25 A. “Mr Harrison was contacted by Mr Doug White with a request for assistance. The Queensland Government jet was mobilised and SIMTARS initial response team and gas analysis equipment comprising of two gas chromatographs and all of the accessories, including gases required to operate these instruments were flown to Hokitika Airport where helicopters flew the response team and equipment directly to the mine, arriving at approximately 9.00 am, Saturday the 20th of November 2010.”

30 Q. Pausing there, one of the matters that has been raised in evidence is the fact that there were already, as I understand it, two gas chromatographs on the West Coast, one at Rapahoe and one at Stockton Mine, is that your understanding?

A. I certainly knew that there was a gas chromatograph at Rapahoe. I didn't know about the additional gas chromatograph, but I've since found out about it.

5 Q. Are you able to say what, if any additional value SIMTARS was able to contribute beyond the equipment and expertise available on the West Coast?

A. Yep, in fact one of the recommendations from the Moura No. 4 Inquiry was that all Mines Rescue stations in Queensland were to get gas chromatographs. We finished up not going down that path with gas chromatographs actually being installed at a mine site and our underground coal mines all have a gas chromatograph in Queensland. We would still take a gas chromatograph to site, even though they had one. It will help us increase our throughput of samples and there's a redundancy built in and we were analysing samples in duplicate with Rapahoe, so it gives some confidence to the results. I've since learnt, and I stand to be corrected, but the gas chromatograph that was at Stockton, I believe, is a conventional style GC. Now, in the past they've not necessarily travelled very well and also they take longer for the analysis, so it would've delayed in results being available and I guess that was one of the big advantages in setting up the gas chromatograph on site was that we took out the need for helicopters to file samples from the mine site to Rapahoe for analysis. It's just additional resources as well. Not tying up rescue people if required by us doing the analysis.

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25 Q. Do I take it that the gas chromatograph that you brought from SIMTARS is not what you've described as the conventional?

A. Sorry, yes. The gas chromatographs that we use are often called Monochrome gas chromatographs and their analysis time is in the order of two minutes. A conventional gas chromatograph may be 30 10 to 15 minutes.

Q. If you could continue from 2.9?

A. "The undermanager's office was allocated to SIMTARS for use as a gas laboratory. SIMTARS was briefed by Mr Steven Ellis production

manager, Pike River, and given the scope to establish an onsite gas analysis laboratory. SIMTARS set up an onsite gas laboratory that used gas chromatograph for analysing the collected samples. In generating the results onsite at Pike River Mine, reduced the time taken between sample collection and the availability of results. Gas data is collected and reviewed following an incident such as that at Pike River Mine to determine the likelihood of further explosions, the existence, and/or status of any fires, the movement of gases throughout the mine, the effectiveness of control measures deployed, such as sealing and inertisation and what happened, which is not always possible. SIMTARS primary role was to provide gas results with the objective of working with Pike River Coal personnel and other agencies to use these results to assist onsite personnel in the determination of the status of the above. SIMTARS took on a supporting role and as such provided expertise and resources where possible and as requested. These resources included the gas chromatographs, a thermal imaging camera, sample pumps and scientific and engineering staff. It was identified that improvements could be made in the way samples were being collected, in particular the time and resources, helicopters, required to get the samples from where they were being collected back for analysis. SIMTARS assisted in the procurement and commissioning of an automated sampling and analysis system, the tube-bundle.”

Q. Just ask you to pause there.

MR MOUNT ADDRESSES THE COMMISSION

It is not proposed for Mr Brady to read section 3 of his brief. The reason for that is that it deals with issues that we will return to in Phase Three and for reasons that are set out in the brief, Mr Brady’s opinions in this section of the report are quite preliminary and require further information before he will be able to express firmer opinion.

30 EXAMINATION CONTINUES: MR MOUNT

Q. So if we can turn to paragraph 4 of your report, which is on page 5 of the brief. Could I ask you first about the question of a possible fire

burning underground at the mine following the explosion on the 19th of November? When did you first become confident from the gas results that there was a fire or ignition source underground?

5 A. Yep, and to be a chemist here and do both sides of the equation, to me there's a big difference between confident that there is, and confident that there's not and confident that there was, was when the samples became available from PRDH 43.

Q. Just pausing there. That was Wednesday the 24th of November?

10 A. That's right. There was certainly evidence that a fire may exist but there's a variety of reasons that you can, sort of, counterclaim on that. If you have an explosion, you're going to produce a lot of the same gases that you'll be looking for as evidence of a fire. So, if they remain in the mine they mask what it is that you're looking for. So it takes some thinking about to establish whether they're residual or whether they're
15 being generated. A lot of that's on trending and various sample locations. So we were looking for specific determination of whether it didn't exist, but when you've got a possibility you have to assume that it's there.

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20 Q. During the period between the 19th of November and the results becoming available from drillhole 43 on the 24th of November, do I take the position was that there could have been a fire underground but that you were not sure that there was?

25 A. It was very possible, there was enough evidence to say it's possible, but the problem is discounting whether or not it's residual or new. So even though I'm saying now it was possible and I wasn't confident until the results from 43, it's not that I'm saying, there is no fire, it's just that I don't have evidence of there being an existing fire, a continuing fire.

30 Q. Put another way, you couldn't rule out the possibility of a fire but you certainly couldn't be sure that there was one?

A. That's right.

Q. One of the factors that has been referred to on the question of whether there was fire is the issue of smoke seen coming from the main

ventilation shaft. And on this perhaps I can refer you to document PIKE.17762. This is a document headed, "Explanation of gas analysis and interpretation." Are you able to help us with what this document is?

5 A. Yes. I understand that, and I know that Ken Singer, Deputy Chief Inspector of Coal Mines in Queensland was involved in putting this together and Ken and I did opposite shifts, so this was generated during dayshift, and I believe there were other people involved in it as well. I am not certain who but I believe maybe Robin Hughes and maybe someone from Coal Services, may have been Seamus Devlin, not 100%
10 sure on the others. It was just a document that was put together to try and explain what it was we were looking at, at the mine site. And I guess the top diagram is a good example of what I was alluding to earlier about we've got a sample from one location, how do we differentiate what's left over from an explosion, which is often referred to
15 as, "Afterdamp." You'll see that a lot of the gases in here are the same as what you'd see for an ongoing fire or combustion, and from one sample location it's very difficult to distinguish which is coming from where. So the idea was just to give a guideline so that people could understand what it was that we were trying to work out and why it wasn't
20 an easy clear-cut yes or no.

Q. If we move on to of this document, in the bottom third there's reference to, "Smoke reported at the main shaft." Perhaps if we zoom in on that section of the document. You'll see there is reference there to a number of observations of light-grey smoke at the ventilation shaft. And in the
25 second paragraph it is said, "It is likely there will be high humidity associated with the afterdamp, this could be observed as fog when mixing with cooler air. This must be considered when considering visual signs associated with coalmine fires." Are you able to help us with what that is referring to?

30 A. Yes. And maybe an easy way of explaining it is you see picture from power stations and you see what appears to be smoke coming out of the stacks, makes a great photograph, but it's essentially water. And when the water comes out to a cooler atmosphere, which is most likely

what would happen on the surface it goes from the gas phase to the liquid phase and it appears to be almost smoke-like, and it can be observed as that. I just point out, when we're doing the analysis we're not there saying, "We're going try and determine there is a fire," we're

5 trying to work out, "Is there or isn't there."

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A. We're looking at both sides, so it's not just put your hat on to say yes we've got a fire. So we have to be very aware that we don't just steer down one path, consider both sides. And there was reports of seeing

10 the smoke and they would vary, you know, report to report. In saying that, we had discussions and said, well you could never, unless you can explain and prove that it was such, you could never say no there isn't a fire going on there if people are reporting that there is smoke. We're just alluding to the fact, though, there are some other considerations it

15 may not be. And in fact earlier in my career as a young chemist sitting near a fan shaft I got quite a concern because I saw what I thought was smoke coming out of the evase, but it was actually either moisture or stone dust, which is also white. The other issue that, it's not brought up there I don't think, is if we've lost the concern control devices which

20 direct the air around the mine, we could have most of the mine with smoke and there's afterdamp that may just be sitting there, not stagnant but being brought out with barometric pressure changes flushed out so that we might be getting wafts coming out. Again, is it new, is it old? So...

25 Q. Do I take it from that that the reports of smoke may or may not have indicated a fire burning underground?

A. That's why again it's not evidence that we're going to ignore, but we do know there are other possibilities. I must point out I was working nightshift at this time and never actually saw the smoke myself.

30 Q. If I can quickly refer you to three photographs of the ventilation shaft at the time. The first is photograph 0768, which is on page 3 of the hard copy book. Are you able to help us with what we can see there

WITNESS REFERRED TO PHOTOGRAPH 0768

A. And again, we actually didn't see these photos necessarily at the time. You see there there's smoke, and I do note that there are requests in our logs that Ken made for photos; when people saw it could they take photos. We can see there, I'm presuming that this is the smoke that we're talking about.

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Q. And I should have said that this photograph we're told was taken on November the 19th. In looking at that photograph are you able to say whether that is evidence of a fire or whether it is simply in the category you referred to earlier where it may or may not be?

10 A. May or may not be.

Q. Second photograph, number 0771?

A. Which, sorry, again because it was the 19th this may still be from the initial explosion, what's sort of wafting out.15 Q. This is photo 0771 again dated November the 19th, and it's on page 4 of the hard copy book.**WITNESS REFERRED TO PHOTOGRAPH 0771**

Q. Is the position any different in that photograph?

A. It's the same thing.

20 Q. And if we look at photograph 0711, this is from November the 23rd. It's on page 56 of the hard copy book.**WITNESS REFERRED TO PHOTOGRAPH 0711**

Q. Are you able to say whether the position is any different, looking at what's coming from the vent shaft on that day?

25 A. Not really. It could still be – and also photos, you do have to be careful because, you know, colours and things sort of can be a little bit distorted. It was interesting some time later when the GAG was operating and we had a lot of steam, you know, you look from a distance and it, again it looked like smoke, and there were reports of smoke issuing out of fissures in the ground, especially around the
30 Slimline people reported smoke, and it would appear that it was steam rather than smoke. So I'm not discounting it, I'm just pointing out that we can't see definitively yes or no.

Q. One of the documents referred to yesterday is DAO.029.00005?

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WITNESS REFERRED TO DAO.029.00005

5 Q. You'll see it headed, "Options model, Operation Pike as at 23 November 2010." I take it this is not a document that you were involved in creating?

A. No, it wasn't.

Q. From your knowledge of the situation on the 23rd of November at Pike, can you help us with the significance of the flowchart referring to both a yes option and a no option from the box, "Fire exists?"

10 A. Again these are my thoughts, but if you knew that a fire existed, you wouldn't be spending so much time necessarily on the no side. It doesn't become such a question box. It would be yes, and what we're going to do there, but you can see that there is a no, and what's going to happen if there was determined that there wasn't a fire.

15 Q. From your knowledge of the information at the mine on the 23rd of November, I take it there was not certainty about whether there was or was not a fire?

20 A. No, that's right and I guess that's indicated by the expectations and not necessarily what was going to be definitive results from or interpretation from, but around the samples that would be collected from PRDH43, and I note that this is done prior to that. They're probably getting ready for what they were going to do.

25 Q. I'll take you back in time now to an earlier document, PNHQ.01754. Again this is something which was referred to earlier in the week, and this is a briefing presentation at police headquarters, which appears to be as at 6.30 pm on the 21st of November.

WITNESS REFERRED TO PNHQ.01754

30 Q. On page 14 of that document, the first bullet point reads, "Samples indicate that there is likely to be a significant fire burning within the mine." Can you give us your comment on what is said in that first bullet point?

A. Yep, and I guess this is just one of the difficulties when people are faced with this situation. My job is, well not 24/7, but gas analysis, so straight

away I see there are some problems with this. One is that it says, "CO₂ levels if above .35 indicate active fire with temperature around 150 degrees Celsius." I think what it was meant to say was, "The CO/CO₂ ratio" and that's just one of the tools that we use to determine whether or not there's a coal heating or a spontaneous combustion event. One of the problems with the interpretation using just this CO/CO₂ ratio is that we have residual gases from an explosion and we know there were residual gases left. One of the influencing factors on these ratios is if there's a secondary source of those gases, so applying that CO/CO₂ ratio of above .35 indicates that temperature is relying on the fact that both the CO and the CO₂ are only coming from this coal that's getting hotter, not something that was generated in a previous explosion, so although by numbers, and you could look up multiple different textbooks and those numbers, the 150 degrees for .35 are based on Bowen Basin coal in Queensland, not necessarily on that at Pike. But you could, you could say, "Okay, CO/CO₂ ratio of that means this," but it's not being used in the right application because there are other sources of CO and CO₂ in this instance. The same goes for, they talk there, the Graham combustion rate of .4 is normal and any gas chemist or anyone with mine interpretation knowledge would say, "You've got to be very careful about what's normal. It's all based on what's normal at your mine." And there's a lot of reasons why it may be under estimated, but textbook values, that's correct, but again, it's talking about the gases that are being produced by coal heating up, the oxidation reaction that goes on and again we've got – and Graham's ratio is based on how much carbon monoxide's produced for how much oxygen that's used up, but we have a secondary source of carbon monoxide, being what was left over from the explosion. So again, ratios like that have to be used with caution following an explosion.

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Q. So the statement, "Readings in the mine are at 34.28 indicating huge and significant combustion," what's your comment on that?

A. Well maybe the huge and significant combustion that they're talking about is the initial explosion, well sorry, when I'm talking indicating the initial explosion, we have no way of separating which CO came from hot coal and what came from the explosion.

5 Q. I'll take you back to your brief now unless there's anything else you want to say?

A. Just on that one. There is a good point in that dot point there, and has been talked and no doubt you'll ask me ask me some questions later on this, but it's determined early on, and I agree, there is significant risk of
10 secondary explosion whether the mine is sealed off or not. It's a key point that was identified, you know, early and included in this.

Q. I take it in your view that's a correct statement?

A. That's right.

Q. And it is a matter we'll come back to shortly?

15 A. Yeah.

Q. From paragraph 4 of your brief on page 5 you deal in more detail with the position post November 19, and the first question that you were asked to address is from the gas readings taken each day after the explosion was there evidence that a subsequent explosion was likely to
20 occur. Can I ask you to read from paragraph 4.1?

A. Sure. "Data generated from gas samples collected indicated that a second explosion was possible. There was evidence of sufficient methane, enough oxygen and indications that a fire might exist." And sorry I'll just break there because I don't want you to get the impression
25 that I'm saying, "There wasn't a fire," I'm just saying we have to take into account that it may not be, but we were considering that one might be present. "All that was required for a subsequent explosion was the three to come together, which was a possibility especially considering observations of ventilation reversal. Ventilation reversals were
30 observed when instead of air being drawn into the portal and continuing to the vent shaft air started exiting the portal and most likely was being drawn into rather than out of the ventilation shaft. Then, what information did SIMTARS not have available that it required in order to

endorse re-entry by Mines Rescue personnel. In this instance where there was evidence of a possible ignition source, plus methane, plus oxygen, it would be difficult to justify endorsement of re-entry. The only information that would validate a decision to re-enter would be whether or when the three requirements for an explosion would come together. Knowing the location of any possible ignition sources and the boundaries of the different gas mixes would enable a more definitive determination of the likelihood. Although not guaranteed that it would be possible to establish this additional sampling points may have assisted in determining if and when the three could come together. Evidenced by the second and subsequent explosions the three did come together. What information did SIMTARS have that precluded its endorsement of re-entry by Mines Rescue. As outlined in 4.1 and then further in my brief, there was evidence of sufficient oxygen, methane and a possible ignition source underground that precluded SIMTARS endorsement of re-entry by Mines Rescue. What level of confidence did it have in its gas results analysis. SIMTARS bought two gas chromatographs to site and both were set up to perform gas analysis. Initially SIMTARS was running each sample on both. Once it was established that both instruments were operating well and the that the difference in results between the two instruments was acceptable analysis was continued only on one of the instruments, with the other in a standby mode ready for use should a problem eventuate. Duplicate samples were collected by Pike River Coal personnel with one being sent to the Rapahoe Rescue Station for analysis on their gas chromatograph and one analysed on site with the SIMTARS gas chromatograph. Comparison of the independent results, and in most cases duplicate samples, returned results very similar in value. Knowing that independent analysis was returning essentially the same results gave a high level of confidence in the results. Confidence in the results being generated and the subsequent interpretation of the results was increased due to the fact that the gas chromatographs were being used to measure the gases.

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A. Gas chromatography is the best technique for the analysis of samples following an event like that at Pike River Mine because of but not limited to the following reasons. Gas chromatography is the only technique readily available that can measure hydrogen, ethylene, ethane and acetylene all key gases to determine if a fire exists or if coal is hot enough to be an ignition source. The need for gas chromatograph analysis of samples collected during coal fires or heatings and following explosions is not only critical, but the only option to obtain an accurate assessment of the flammability status of the underground environment.”

5 Q. Just pausing there. I see you've used the term, "Coal fires or heatings," could you just help us with what the difference is between a fire and a heating?

A. In easy terms, I guess, a heating progresses to a fire. Coal reacts with oxygen and is an exothermic reaction, that means it gives off heat in a ventilated roadway, that heat is taken away so it doesn't build up. If we get to an area that's supplying enough oxygen for this reaction to occur but not taking that heat away, you know the ventilation's not great enough to take that heat away, the coal will get hotter. As it gets hotter, that reaction will occur faster which means it gets hotter and that just progresses. And that's where we use these ratios to gauge how hot that coal is getting, whether it is getting hotter, whether it's stable, et cetera. So, it can progress to the point of being an open flame. Sorry, I've forgotten where I am.

20 Q. I think you're on the bottom bullet point on page 6.

A. "Failure to do so can lead to wrongly assessing the atmosphere to be inert when in fact it could be explosive or fuel rich due to the generation of percent levels of carbon monoxide and hydrogen during mine fires. The presence of percent levels of these gases not only adds to the percentage of combustible gases present, but also has a major influence in the lowering of the minimum amount of oxygen required for an explosion. Other common mine gas monitoring techniques are not

capable of measuring these gases at these concentrations. In summary, SIMTARS had a high level of confidence in the results.”

5 Q. The next topic is referred to as, “Window of opportunity,” and as I understand that phrase, it is sometimes used to suggest that there is a period of time that can be known in advance where it will be safe to enter the mine. Is that your understanding of the popular use of that term?

10 A. I believe so, it’s not a term I like to use and I believe that it’s conceived that it’s an opportunity that can be taken without knowing the results. That it exists and you can make use of this time.

Q. Can I ask you to continue reading your brief from just under the heading, “Window of opportunity.”

15 A. Sure and I might elaborate a little bit on this. “This question needs to be answered in context. The determination of whether a window of opportunity exists for re-entry into the mine can only be done with the data available to predict what could possibly occur and not going back over existing data and saying there was an opportunity. I will also limit the timeframe of consideration up until the fourth explosion.” And I guess this is one of the areas that your interpretation can be challenged the most in that you can always look back and say, “Nothing happened for that period of time,” you had the opportunity, but we don’t have that luxury. We try to look forward and in fact it gets more difficult than that. Not only do we have to work out what’s happening at that time, we also need to be able to predict how long that time will be available. And I’m not involved in Mines Rescue operations myself, but they’re not a five minute job. So what we’ve got to be able to do is not only know it’s safe now, but if it’s going to take two hours to get into the mine, I certainly don’t want to be the person that’s communicating it’s going to go explosive in half an hour if it’s going to take them an hour or more to get out. So, it’s not just about what’s happening now, it’s predicting into the future as well. So, it’s much easier in hindsight which we don’t have the luxury of.

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Q. You could continue from 5.2?

A. “A key consideration when deciding to send a rescue team into a mine following an explosion has to be, is there going to be another explosion? For an explosion to occur an explosive gas mix, which is a mix of the right amount of flammable gas, such as methane and oxygen, needs to come in contact with an ignition source. This ignition source may be a fire that either initiated the first explosion or one that started because of the first explosion. It must be noted there are other possible ignition sources but they are outside my area of expertise. Initially after the explosion on the 19th of November 2011, the main sample point was the vent shaft. Following the explosion the structures used to direct air around the mine (ventilation control devices) can be destroyed. This means that even if there is air being drawn into the mine due to natural ventilation (the fans were no longer operational) it won't get to all areas to flush out the pollutant gases that build up. This means there was no guarantee that the gas measured at the vent shaft was representative of the explosibility status underground nor the presence of a fire. It is most likely that in the main workings of the mine the methane would be higher in concentration than that measured at the vent shaft.”

20 Q. Just pausing there, and this might be self-evident, but can you help us with why the levels of methane could be expected to be higher in the underground workings of the mine than the measurement at the top of the vent shaft?

A. If we lose this – the ventilation control devices and ventilation, one of the purposes of it is to flush out these contaminant gases that build up, and as the mining process goes on methane gas is liberated. That would remind the ventilation to sweep that away and take it out the vent shaft. If we no longer have the direct or being able to direct the air flowing through those workings, that methane is just going to build up. So what we measure at the vent shaft could just be what sort of maybe coming out because of barometric pressure differences. So it's not sweeping out, bringing out all the methane. We're only getting some percentage that we don't even know of, of the methane reporting there.

Q. Continue from 5.7 please?

A. "And also the dip of the mine. Without ventilation, methane is lighter than air. There is no turbulent flow. It will sort of tend to move upwards and that would be taking it away from the vent shaft and towards the back of the mine."

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Q. I think you're at 5.7.

A. "The least amount of methane in air required for an explosion is 5%. Following the first explosion methane was reporting to the vent shaft. It was probable that the methane at the vent shaft was being diluted by the air entering the portal and travelling up the drift and that there was likely to be areas with more methane than was being measured at the vent shaft. The concentration of oxygen being measured at the vent shaft also indicated that there was sufficient oxygen in the mine to support an explosion. Two days before the second explosion a sample collected from the vent shaft was determined to be explosive. The presence of gas indicators of a coal fire including ethylene and acetylene meant that an ignition source could be present and in conjunction with the methane concentrations likely to be in the mine a secondary explosion was possible. On this basis the atmosphere could not be defined as safe for re-entry, which means that the opportunity to re-enter did not exist. I've been part of a task group formed in Australia working on mine re-entry for the past couple of years and one of the critical factors identified for making decisions on whether to re-enter a mine is whether the sampling locations are representative of what is happening underground. In other words, we are able to confidently say we know what is happening underground in terms of explosive gas mixes and possible ignition sources from where we are collecting the samples. With only one real sample point, that being the vent shaft, even without the evidence of a possible explosive gas atmosphere and a possible ignition source the determination that the mine atmosphere was safe for re-entry to go ahead would be highly unreliable."

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Q. Just pausing there. You are about to go on and tell us about the significance of the samples from drillhole 43. Perhaps if we can just have up on screen SOE.008.001 at page 64.

WITNESS REFERRED TO SOE.008.001

5 1050

Q. Just for reference, could you just point out for us drillhole 43, and, thank you. And can you also just confirm that the timeline for this drillhole as we have it in evidence is that it actually passed the bottom of the mine workings early in the morning of the 24th of November 2010, and the first
10 samples as I understand it were collected from about 7.20 am on the 24th, is that right?

A. That's correct.

Q. And samples then continued to be taken from that borehole throughout the morning?

15 A. That's right.

Q. Were you present at the mine that morning until about 10.00 am?

A. Till about 10.00 am, and I mentioned before, I was doing nightshift and I'd actually had an early start the day before, so I left site probably around 9.30, 10 o'clock on that morning. But we were very aware when
20 those first samples came out and I note that Mr Devlin was also very aware and Mines Rescue communications, with communications with Mines Rescue made them very aware as well, that the first few samples from this location could very well be misleading. We may have introduced, most likely introduced air into that borehole just through the
25 drilling process and that the samples that were first collected may contain higher oxygen, significant amount is in air, and give us the wrong idea of what was happening at that point, so we would need to get multiple samples and over some period of time to establish what was representative from that point.

30 Q. And just to refresh our memories. I take it this was the drillhole that narrowly missed the underground workings and went effectively just off to the side of the wall of the underground mine, is that right?

A. That's what was reported to me, yes. And I guess there'll be, well was it a representative sample. How do we know that what was coming out of that hole was from the workings and not from – although I believe it was in stone, not in coal there. I guess what gave us confidence that there was a connection between that borehole and the workings were the levels of carbon monoxide and hydrogen that we found in that sample, which are, you know, we would've expected to see them in that, it's often referred to as the "afterdamp", or that the gases that resulted after the explosion, because they were there, we could have some confidence that there was a connection between that borehole and the workings. If I can just also point out, one of the significant points about that borehole is that it's in this area here and I mentioned earlier we were concerned that we lost ventilation control devices, so there was no sweeping out of these areas, so getting a sample from this area would indicate whether or not air was still progressing up into the mine. And I guess that's just the significance of putting that borehole in that particular location. I must – I had nothing to do with where it was actually planned.

Q. I think you're at 5.13.

A. "The first samples from PRDH43, the first borehole drilled for sampling following the initial explosion, were available the morning of the 24th November 2011. The gases measured at PRDH43 were compared with those measured at the vent shaft to see if there was any difference in the ratio of the gases. Any extra indicator gases measured at the vent shaft would indicate that an emission source fire existed somewhere else. From the data it was determined in conjunction with Mr David Cliff, Professor of Occupational Health and Safety in Mining and Director of Minerals Safety and Health Centre that the borehole gas represented about 2.7% of the gas measured at the vent shaft. This was based on the hydrogen, carbon monoxide, ethane, ethylene and acetylene results and was consistent for all when considering sampling and analysis errors."

Q. Just pausing there. There was a little bit of discussion about Professor Cliff's involvement. How do you understand that he was consulted on this interpretation issue?

5 A. Yeah, and I must agree that there really does need to be a process of checking and I've known Dr David Cliff for some time and certainly respect his expertise in this matter, and had been speaking to him. Again, there's no place for an ego in a situation like this and thinking that you've got it right so you need to be making sure that what you're saying is correct. And in fact maybe references to Dr David Cliff being
10 engaged by Pike and Doug White, I heard that was referred to prior to the police, it may come back to myself. And I can't remember for sure but I'm certain that I would've asked Doug White, "Do you mind if I talk to Dr David Cliff about these results, I just want to sound things out with him." So that's where that may have stemmed from.

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Q. Was that effectively a peer review process?

A. Exactly right.

Q. I think you're at 5.15.

A. Yeah. "There was however an excess of carbon dioxide and not
20 enough methane at the fan shaft when using this factor of 2.7%. This indicated that it was possible that methane was burning and producing carbon dioxide at some point closer to the portal than PRDH 43. The early interpretation of this data was enough to indicate that an ignition source existed, possibly where an explosive mixture could form, so the
25 decision was made that it was not safe to send Mines Rescue teams into the mine. The second explosion confirmed the presence of the ignition source. The second explosion complicated the decision process again as new ignition sources may be created in an area that may accumulate flammable gas. From this point onwards the data did not
30 indicate that a window of opportunity existed and a further two explosions occurred. Further to the concept of a window of opportunity the length of time this opportunity presents is neither consistent nor necessarily long enough for a safe entry to be made. The examples

below show that the window between explosions varies from minutes to an indefinitely long period. At a coalmine in Western Siberia in May 2010 a second explosion occurred three and a half hours after the first, killing many of the rescue team that had been sent in. In July 2000
5 at the Willow Creek Mine in Utah in the USA a series of four explosions occurred with about seven minutes between the first and second and only about one minute between the second and third and then about 21 minutes between the third and fourth. At Consol No. 9 Mine in West Virginia in the USA in November 1968 there were multiple
10 explosions following the initial, with as little as two hours between explosions and as long as several days.” There was also one that I haven’t referenced there but at Jim Walter in September 2001 in the USA there were 50 minutes between the first and the second and there were 13 men killed and at least 12 of them were killed in the second
15 explosion trying to find the gentlemen that they knew was either injured or killed in the first explosion. “So these are just a few examples but they show there are not fixed rules or guidelines for timing between explosions that can follow after an explosion.”

Q. If we’re putting this bluntly Mr Brady, does that mean that as we’ve
20 defined it there is no window of opportunity?

A. There is no guideline that you can draw on that says, “After an explosion you have X amount of time.” That amount of time, as demonstrated may be one minute, it may be two/three days, there’s nothing to say that we’ve used up all the fuel and the oxygen, you have a free run. It has to
25 be determined by the numbers, the gas results.

Q. And just before we leave this topic, could we have on screen document CAC.0088, which is an independent report into the Upper Big Branch Mine Disaster on 5 April 2010. I take it you’re familiar with this report?

A. That’s correct.

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Q. There’s a passage on page 39 that I’d like to refer to you. On the right-hand side of the page there is a box dealing with the topic of, “Disasters, the media and politics.” If we could zoom in on the very

bottom paragraph in that shaded box, and I'll perhaps read that to you, Mr Brady. "Life and death decisions whether to send rescuers in or pull them back, a question discussed and second-guessed allowing the emotion of the moment to infringe upon the detached discipline and scientific approach that forms the basis of Mines Rescue at it's core, Mines Rescue, is best served when decisions are based on the numbers, the raw data as to the toxicity of the atmosphere and the potential for secondary explosions of fires. The emotion generated by media reports should not ever be a factor in those decisions. The mining community needs to address the rescue and recovery system in light of the new challenges presented by technology and the now, ever present media." Do you have any comment on that statement?

A. This report came out earlier this year, post-Pike and I've used that paragraph in presentations that I've done to the mining industry and I guess that it just sums it up for me. That's exactly, it nails it.

Q. The next topic in your brief on page 8 at paragraph 6, is, "Emergency response simulation practice in Queensland." Just before we deal with that, can I ask you what opportunity you have had to observe and become familiar with the structures used in Queensland to deal with mine emergencies?

A. Yep. Well I've been part of IMTs, most of them have been for heatings/spontaneous combustion events, and I guess the one that's given me the most regular experience is the level 1 exercises that are conducted each year in Queensland and I'm on the organising committee and have been for a number of years, for those exercises and then am an auditor at the mine site during the conduct of those exercises, so get to see them.

Q. If we could perhaps have on screen a diagram which appears in Mr Singer's brief, SIM.0002 at page 11.

**30 WITNESS REFERRED TO DIAGRAM FROM MR SINGER'S BRIEF
SIM.0002**

Q. And if we zoom in on the diagram at the top of the page, this is headed, "MEMS structure," and I take it this is a diagram of the structure that is commonly used in Queensland to deal with mine emergencies?

A. That's correct.

5 Q. Could you help us please with understanding what that diagram depicts?

A. And I guess the structure of this is not that different to what we've seen displayed previously, I guess it's a parallel to the CIMS model, if I've got that right, and in fact it was taken, and a lot of work was done with
10 Queensland Mines Rescue working with our emergency services in Queensland to develop the model and tune it for Mines Rescue, so a lot of similarity. So we have the incident controller and you can see this is taken from Queensland Mines Rescue Services presentation probably in the training, and done this training, the incident controller and there is
15 the mine manager. We'd then have a planning co-ordinator, an operations co-ordinator and a logistics co-ordinator with teams underneath. Of interest, I guess, is what we see to the side here and the EMT stands for executive management team and that would be for the company at which the situation has arisen and the site senior
20 executive who is responsible for the actual site.

Q. Just pausing there, could you help us with the difference between the mine manager and the site senior executive in the way that they would relate to each other?

A. They'll have different statutory responsibilities and not always the case
25 but the site senior executive doesn't necessarily have to be of mining, or have mining knowledge. They'll have to understand the legislation and they have to undergo an examination to become an SSE, but they don't necessarily have to have the mining practicalities that the mine manager would. Then over this side here, and the slide comes from 2006 and
30 DME has a new name, that's DEEDI, but that DME –

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Q. Sorry, pausing there just for the transcribers. When you say, "DEEDI," that's D-E-E-D-I?

- 5 A. That's right. Which is the Department of Employment, Economic Development and Innovation, a mouthful, and it used to be the Department of Mines and Energy. But the reference there is to the mines inspectorate. I'd say they're either a district inspector, senior inspector or, depending on the situation, maybe the chief inspector of coal mines. And then our industry safety and health representative in Queensland, you know, the unions, the CFMEU. So they will also be in here, and they may attend the IMT meetings and have input, both of those parties, and then a lot of this will most likely be a flow of information. And then we have these groups underneath with the teams working underneath them. And they're just some examples of who may be in those teams.
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- Q. Can you help us with how emergency services such as the police, the fire, or ambulance would fit into this structure?
- 15 A. They may come, like it depends on the situation because, you know, like I said this is flexible and the idea is to apply it. You know, this isn't just the one we being out for an explosion. It's a good model to follow, managing by objectives, so you can adapt it to a lot of things. So it will just depend, it would depend on what the situation was. Now if it's an explosion I don't know if they are necessarily going to be in the planning, but if it was something on the surface they may get brought in there, and I wouldn't be surprised to see if the police also maybe somewhere around here, had some input or be advised of.
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- Q. You just indicated on the diagram. We just need to make sure that's typed into the record. Can you explain what you mean?
- 25 A. Again, and I haven't been at a MEMs unfolding where the police have been there. They're invited to our level 1 exercises and they're aware of them. They don't necessarily take a full-on role in them, and this structure was not around at the time Moura No. 2, although the police were on site. So again, I can't necessarily say where they will exactly fit in, but I can probably confidently say it's not likely to be that one.
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- Q. That's the incident controller?
- A. Yes.

Q. What training and preparation does a mine manager have for the role of incident controller in this structure?

5 A. I'm not a mine manager and I've not done the examination, but as I understand it, that will be part of the questioning to get their ticket, certification to be a mine manager. They would be questioned on those. There's also risk assessment training that they need to have to become a mine manager. So there's some competencies that are required and then be questioned on them.

10 Q. You've indicated off to the right of the diagram the inspectorate. Are you able to say whether, perhaps, when and how the inspectorate might ever intervene at an emergency to either require or prohibit a mine manager from taking a certain action?

15 A. Yeah. And I can't recite the legislation verbatim, but one of the duties of an inspector is to assist and provide advice in an emergency. And I'm sure the industry safety and health representatives would take that approach as well, and you can ask Mr Whyte that. If either of those parties thought that safety was going to be compromised, I'm sure they will just come in and they would have the power to stop things proceeding that way. So if they didn't think that the right decisions were going to be made, they have the ability to stop what happens. So they're not necessarily making the decisions, but they have a veto right.

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Q. Is it fair to say then that it is not a complete transfer of power over the incident to the private mine manager?

25 A. They would be responsible, because, as I understand it, their responsibilities under the legislation don't necessarily stop with an incident. They still have, you know, responsibilities under our legislation. And if they were to do something wrong, there's someone there to stop that from progressing.

30 Q. If, for any reason the mine manager on site was not able to fulfil that role, what do you imagine is the likely scenario?

A. They will already have procedures in place because, as was mentioned yesterday, fatigue certainly comes into these situations so they will have

to have, you know, they would wait until they've got a situation and then 10 hours into the shift say, "Well, what are we going to do now?" So, again, that should be covered in their emergency response plan. They may draw on the SSE or someone with other qualifications, they may use some mutual assist – I don't know necessarily what they're going to do, but there are a variety of options available to them.

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Q. Are you aware of what the position is in Queensland with small mines? Do you have any mines in Queensland that have just a handful of employees underground?

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A. No. Not underground coal mines.

Q. So is it fair to say that this model is developed with larger mines in mind?

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A. Well, the model's not necessarily developed for larger mines. I guess it comes down to, how would a smaller mine resource such a model and they'd have to be, you know, thinking maybe filling some of these spots externally, but that actual structure should still work for a small mine.

Q. The next topic addressed in your brief is simulation practise which flows from this structure as I understand it. Could you read from paragraph 6.1 please?

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A. "One of the recommendations from the Warden's Inquiry into the 1994 Moura No. 2 mine explosion was that emergency procedures should be exercised at each mine on a systematic basis, the minimum requirement being on an annual basis for each mine. As a result of this recommendation an improved standard was developed for the conduct of emergency procedures exercises and released in 1996.

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Queensland's Coal Mining Safety and health Regulation 2001, details coal mines safety and health management system must provide for managing emergencies at the mine and that the system must include carrying out emergency exercises, including testing the effectiveness of emergency management procedures and the readiness and fitness of equipment for use in an emergency and auditing and reviewing the emergency exercises. In 2009, an updated recognised standard,

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‘Recognised Standard 08 Conduct of Mine Emergency Exercises’ was released.”

Q. Just pausing there, do you have a copy of that recognised standard with you?

5 A. I do.

Q. I’ll just ask you to produce that as an exhibit please, number 28.

EXHIBIT 28 PRODUCED – RECOGNISED STANDARD 08 CONDUCT OF MINE EMERGENCY EXERCISES

10 Q. There’s now a table in your brief and I won’t ask you to read that out, so if you can move on to 6.5 please?

15 A. “The objectives of emergency exercises are listed in the recognised standard as: safely test the facilities and strategies in place at a mine to manage emergency events in all circumstances. Test the competency of mine workers in using those facilities and implementing the strategies. Enhance the confidence and ability of mine workers to respond in an emergency. Identify opportunities for improvement and share the learning outcomes with industry. The recognised standard was developed so that emergency exercises are conducted in a manner so as to, amongst other things, test the ability of the current mine emergency procedure plan to meet the desired outcomes of an emergency response. Relate to the principle hazards identified as being integral to the mine itself and ensure the facilities to control are adequate. Demonstrate a co-ordinated response. Assess all the elements and personnel involved and identify any additional training needs. Enhance the confidence and ability to respond to an emergency. Involve all shifts at some stage through the year.

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30 A. The intent is that the emergency preparedness of the mine is tested for any time of the day or night. Allow for a performance analysis and debrief to occur with outcomes recorded and relevant information disseminated internally and to the industry. This is to be a formal process in the case of the level 1 exercise. To test the ability of external agencies to respond to an emergency. Reports and outcomes of all

level 2 exercised shall be sent to the inspectorate in the region for the mine and the industry safety and health representative by the organising committee within two months of conduct of the exercise. The mine shall forward any outcomes relevant to emergency response to the inspector for the mine and the industry safety and health representative within six months, an action plan for corrective actions, review of the mine safety and health management system as a result of all emergency exercises, level 1 to 4. The inspectorate and the industry safety and health representatives are to follow up on such plans and ensure the corrective actions that are of benefit to other mines are circulated in a timely manner. The level 1 exercise is the major emergency exercise conducted in Queensland each year. It is a learning opportunity for the mines and state services to test their response, communication systems and interactions with the aim of continual improvement of the whole system. Approximately 200 man-days of professional time are involved in each level 1 process. That is from the initial site visit to the final printing and mailing of the report. The scenario and preparation is undertaken by visiting the mine to assess site conditions and underground mining standards. The preliminary site visit takes place approximately five months before the anticipated exercise date. In setting the scenario reference is made to previous exercises and high potential incidents in Queensland and elsewhere to determine what the exercise will test. For example, it may be SCSR, self contained self-rescuer, changeover, first response, call out of mines inspectorate and other supporting agencies. A two-week window is identified for when the exercise is to be run and this is communicated to the mine, but they are not told when in that window the exercise will be initiated. Ventilation modelling is undertaken to determine where, when and how much of any pollutants generated by the incident will appear. Data is then prepared for entry into SAFESIM, a SIMTARS programme which acts as dummy PLC, to feed real time gas information for both real time and tube-bundle analysers into the format that the mine would normally receive their gas data. This keeps the scenario as realistic as possible.

Depending on the scenario props and tools are used underground to keep the scenario realistic. For example, if the scenario involved smoke underground personnel are given smoke goggles to wear, and at least several personnel are given self-contained self-rescuers to wear to gain experience in their use. The exercise tries to keep things as realistic as possible. On average there are about 20 assessors associated with the exercise, assessing the performance of both of those on the surface and underground and auditing against the mine emergency response procedures, as well as the response from external agencies called to assist. At the end of the exercise the team of assessors generates the basis of the final report with the organising committee responsible for finishing the report. The report includes recommendations for the mine the exercise was conducted at, as well as recommendations for the whole of industry.”

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Q. Just pausing there. You’ve described the level 1 exercises, if we put on screen the table from paragraph 6.4 we can see reference to levels 2, 3 and 4. Without asking you to read or go through that in detail, can you just summarise for us what the essence is of those additional levels?

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A. Sure. The level 1 exercise is only done at one mine site per year, and its organised external to the mine. Now the other mines all have to do a similar scale of event, which is a whole of mine incident but it’s organised by themselves. They may source someone else to run that for them but they’re responsible to do at least one whole of mine, then they’ve got to report their findings. That would mean though if they were only doing that that there is possibly three or four shifts that aren’t tested during the year, so that’s the idea of the level 3, it’s a minor exercise but there has to be one per year for each crew. And again, it’s to give them experience in evacuation what the procedures are, so covers everybody. And then a level 4, I guess the best way of summing them up is of a desktop exercise.

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Q. If we can take you back to part 7 of your brief, page 11?

A. This is the logistical organisation and support at Pike and these are referring to organisations I was asked to comment on. So, “Air New Zealand. I had no direct interaction with Air New Zealand other than commercial flights. So cannot comment. Police, police SAR.

5 I had minimal interactions with police SAR and as such cannot comment. Under their role as logistic co-ordinators, the police were generally very effective in sourcing resources that were requested and probably had avenues to source items not available to other organisations. The police appeared to have a significant number of

10 personnel responding to the event. As the police at the forward command appeared to be rotated regularly, there may have been some advantage,” and this is not meant as a criticism but maybe a suggestion, “An advantage in briefing them prior to their arrival if it wasn’t already being done, in mining terminology and some basic mine gas interpretation by someone external to the Pike River Mine response, so

15 as not to draw on the resources responding to the incident. Although it probably had minimal impact, there was a lot of uncertainty around when the police would withdraw and handover control of the site to the receivers. DOC. My interactions with DOC were in two areas.

20 Installation of the tube-bundle tubing and operation of the gas monitoring system over the Christmas/new year period. The installation of tube-bundle tubing from the sample locations back to the administration area was a challenging task. With my limited knowledge of options available, DOC personnel were probably the most appropriate

25 organisation to perform this task. The terrain over which they needed to run the tube was difficult to traverse. I am unaware of who decided the route the tube was to run, but in hindsight, it may have been better to run it away from along the river as at times of heavy rain the sample lines were often lost and could not be restored until weather improved.

30 There were also some issues with the joining of the tubes and recording where the tubes were joined in the actual locations they were run. It was, however, an unenviable task that the group assigned managed to complete significantly without any injury. As a response to

Pike River Coal extended over the Christmas/new year period, it was identified that due to staff leave, SIMTARS would have difficulty maintaining an onsite presence at Pike River Coal as well as continuing its Queensland Mine emergency responsibilities. Pike River Coal also recognised that it would have difficulty in resourcing personnel for this period. DOC provided personnel that were available to work over the Christmas/new year period and they were trained along with Pike River Coal personnel by SIMTARS staff to operate the gas chromatograph and tube-bundling gas monitoring systems. For any issues with interpretation or problems with either of the systems, SIMTARS would provide remote support the same way that they do for other mines with SIMTARS gas monitoring systems. Initially, I was unsure of how this would work and thought that it might be better to utilise people with mining knowledge. The DOC personnel did, however, do a good job and without them it may have been difficult to cover this period. The incident management structure and operation, police as lead agency. SIMTARS had not become actively involved in the IMT process until Sunday the 21st of November, so comments relate to this time onwards. I was surprised to see that the police were the lead agency in the management structure. It is not what I would expect to see in Queensland nor have seen during the conduct of level 1 exercises. If an organisation other than the mine itself was to take the lead role, I would've expected it to be the regulatory body for that industry. Department of Labour in this case. Pike River Coal's emergency response plan indicates that the incident controller would be the operations and mine manager. I expect that a lack of mining knowledge made it difficult for the police, especially the onsite incident controller. Being the lead agency, the police brought with them numbers and resources that may not have been available or sustainable by Pike River Coal or the Department of Labour. Although the incident management structure resembled what I was used to seeing, that is an incident controller with a planning, logistics and operations co-ordinator, I was not expecting that the police would fill all of these roles. As

mentioned in 7.3, the police were effective in procurement when advised what was required. Although their structure appeared to be broken into the same three groups that would be commonly seen in emergency response at Queensland Mine, the operation of at least two of these groups appeared different and not as effective to me.

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A. This may have been related to the fact that the co-ordinator positions were filled by the police.” And I think that’s already been brought up in the last couple of days. “There did not appear to be structured planning or operational groups operating under the control of the co-ordinator. Activities in these areas appeared to be done by individuals assigned the task, often directly from the incident management team meetings. It is easy to identify deficiencies using hindsight, but I believe that the planning in particular was hindered by the process. The process would operate differently in Queensland under the Mine Emergency Management System (MEMs) with each of the three groups having their own meetings and generally only the co-ordinator of each group attending the IMT meetings. One of the reasons for this set up is to minimise the number of people attending the IMT meetings. This lack of structured groups under each of the co-ordinators may be attributed to the fact that the police were filling these roles. Availability of essential operational information at inception. The SIMTARS team responding to the Pike River Mine incident initially found acquiring/access to information difficult. This may have been due to a variety of reasons including: onsite personnel not initially aware of who SIMTARS was and what our role was to be; Pike River Coal resources stretched in providing information to other parties; proper structured planning, logistics and operations groups were not established. Under the MEMs process the planning group would be responsible for processing information relating to the current and predicted incident situation. They also are a source of information. The operations group is responsible for maintaining a log of the activities. IMT meetings frequency, number of attendees and quality of leadership. The IMT meetings were at times

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held too frequently with not enough time between meetings to act on actions or obtain or interpret updated data. Mr Ken Singer, the deputy chief inspector in Queensland and part of the SIMTARS team, pointed this out at an IMT and suggested that meetings not be held so frequently to allow persons allocated tasks to progress these. This was compounded by the number of persons attending these meetings and not making effective use of their time. In my opinion far too many people were attending these meetings with several organisations over-represented. One of the reasons given in MEMs training for adopting the MEMs process is to reduce the number of people attending IMTs. If structured planning, logistics and operation groups had been formed there would be no need for many of those attending the IMTs to be there. Those attending did not match those outlined in Pike River Coal's emergency response management plan. It is possible that the flow and capturing of information may have been improved with structured groups and specific meetings for those groups. The quality of leadership varied as there was a staff rotation process that resulted in changes in the incident controller.

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20 A. There were some effective leaders in the role. It was my impression that there was a sense of frustration on site at Pike River Mine, often from all parties. The decision making process was conducted offsite. At times I felt this frustration as well. This is not a model that would be followed in Queensland. Decisions would be made on site. Going through the hierarchy of control appeared to add to the time taken to make decisions and at times added to the load of existing resources. I recall seeing a request to explain what the latest gas results meant, so they could be understood by someone who didn't understand gas analysis, who was involved in the decision making process. I found it difficult to understand why that person would be making decisions based on gas interpretation if they did not have an understanding. In my opinion the offsite decision process was not efficient. There are a limited number of experienced people with the technical skills to deal

with a situation like that at Pike River Mine. Having decision making offsite required input from such experts making them unavailable for onsite assistance.”

COMMISSION ADJOURNS: 11.29 AM

COMMISSION RESUMES: 11.48 AM**EXAMINATION CONTINUES: MR MOUNT**

5 Q. Just before we turn to the question of sealing the mine, you referred at paragraph 8.5 to a possible difficulty for the police onsite incident controller. You will have heard the evidence over the last few days that according to the structure set up by the police the incident controller was based in Greymouth. Can you just clarify what you were referring to when you talk about the onsite incident controller?

10 A. Yes, sorry that's just a terminology hiccup there. That's who we were dealing with, the forward base. So any reference to incident controller, I'm talking about from the process on site.

Q. Did you actually attend IMT meetings at the mine site?

15 A. At the mine site, that's right. So the person who was leading that is who I'm referring to when I mention incident controller, which may not be the right terminology under the CIMS, sorry.

Q. We'll turn now to page 14 of your brief and section 9, the decision to seal the mine. The first question you were asked was should there have been a parallel objective. Can you read from paragraph 9.1?

20 A. "MEMs training details that the planning group should be developing alternative control objectives and strategies. There is evidence of various parties working on sealing options but not under a formal planning group structure. Inflatable seals were sourced and purchased for the vent shaft and portal. Mine site plans for inertisation were somewhat hindered by offsite decision-makers. At the request of
25 Mr Doug White I attended a meeting on Tuesday the 23rd of November," and I say there "2011," but that's wrong, "at Greymouth Police Station to discuss the requirement of the GAG jet engine for inertisation. The GAG was purchased by the Queensland government after the
30 Moura No. 2 disaster as a means to inert a mine after an explosion or major fire so the mine did not have to be sealed like what happened at Moura No. 2 where the bodies of the miners were entombed and never recovered.

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A. Mr Doug White was concerned that there would be further explosions at the Pike River Mine that would hinder rescue recovery operations. SIMTARS executive director, Mr Paul Harrison, had been discussing and determining the most efficient and quickest deployment options for the GAG with Queensland Mines Rescue management. The advice given to Mr Doug White and myself at the meeting on Tuesday the 23rd of November – should be 2010, was at this stage the GAG was not wanted.”

5 Q. Just pause there. Do you remember who said that?

A. I must admit I have no recollection as to who made that comment and it wasn't that the GAG was too be disregarded, it's just that at this point in time it wasn't wanted here.

10 Q. I'm obviously not asking you to remember the exact words used, but do you have any memory of any phrases that might've been used?

A. And I guess this is one, and I have to, I do not remember who said it, it could've been from anyone, but the words were to the effect of, "We don't want it in the carpark.”

15 Q. And were you able to tell from the context what it was about having the GAG in the carpark that was seen as undesirable?

A. That sent a message that we were going from a rescue to a recovery, that's the impression I got.

20 Q. I think you're at 9.6.

A. "The first formal structured planning meeting that I was aware of for sealing options for the mine was on the 25th of November – again, sorry, I say 2011, it should be 2010, the day after the second explosion. The group that formed to work on this included police, Mines Rescue New Zealand and New South Wales, Department of Labour, Pike River Coal and myself. The group came to the conclusion that the GAG offered the best means of inerting the mine without experiencing another explosion.”

25 Q. Just pausing there. Is it your view that after the second explosion it was appropriate to take steps to seal and inertise the mine?

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A. After the second explosion, for what it's worth, my opinion, yes but, in conjunction with the other group that at the same time that was working on this, were coming up with a decision that survivability was zero.

5 Q. Are you saying that before the mine could be sealed, there needed to be confidence that survivability was zero?

A. My opinion, yes.

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Q. In your opinion what preparation or planning should've happened by that time to allow sealing to happen promptly?

10 A. And this is easy in hindsight, and it's certainly not something that entered my head in the first time so I can understand it, but a lesson learnt is that separately there should probably be a group formed working on survivability from the onset so that we have that, in the best informed state that we can be when required. And the sealing, again
15 this comes into that parallel planning, rather than saying, "Yes, this is what we want, now let's get it going," have it ready. If we don't have to use it, great, if we do it's ready there to go.

Q. In your opinion, in an ideal world would the process of planning and preparation for sealing or inertisation options happen even before an
20 explosion occurred. In other words, would that, in your view, be something that the mine should have been ready to do as part of its preparedness for an emergency?

A. Well our legislation makes us do that in Queensland.

Q. In your view is that a good idea?

25 A. We learnt the hard way.

Q. If we could have on screen SIM.0002, which is Mr Singer's brief, at page 19. If we zoom in on paragraph 157. He has offered the view that if someone had decided to seal the mine prior to the second explosion it was possible that this would have resulted in a secondary explosion
30 prior to day five. Is that a view that you agree with?

A. That's correct.

Q. Can you explain why –

A. Sorry, are we talking about decided to seal the mine and the only control was putting a barrier at the portal and at the vent shaft, well yes, I agree.

Q. Why could that have resulted in an explosion?

A. I mean there's evidence from the past where mines have been sealed.

5 June 1999, Loveridge No. 22 Mine, it blew up 77 hours after they sealed the mine. And Huntly West in New Zealand, in September 1992, it also blew up after sealing the mine. And although not the full mine, Moura No. 2 in 1994 in Kainga in 1975, both of those explosions happened after sealing the mine. What you're doing is you're altering
10 gas flows and gas concentration build-ups. With ventilation it's sweeping away any of the methane that may be building up. So although we couldn't be certain what the ventilation was doing if we seal the mine and stop the air going in the methane is likely to fill up and it will move and the fringe where you have this explosive gas mix will
15 move and it's quite possible that that will move to wherever an ignition source was situated, you could have an explosion, so by actually sealing it, when moving that gas fringe and when bringing on the explosion.

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20 Q. So you're saying there is a risk associated with sealing?

A. That's right.

Q. Is the same true for what has been referred to as, "Partial sealing?"

A. And I'm not sure what was necessarily referred to in partial sealing, but if it's talking about just regulating the amount of air that gets into the
25 mine, again we might be changing pressures, if half the amount of air that was getting in, now gets in, the methane concentration, if it's been diluted, will now be double. So, it's something that's not necessarily just an easy fix that's going to solve everything.

Q. Would sealing the mine have any consequence in terms of allowing
30 re-entry by rescue workers?

A. There are going to be for and againsts, and again, take out the situation that we're not eliminating the chance of a second explosion by sealing. There'll also be, I guess, some difficulties faced by rescue

operations. As it turns out, the leakage around the Slimline may have stopped this from happening, but if we were to seal the mine and rely on a methane build-up to inert the mine, well, there are two options, either the Mines Rescue would then have to deploy into a fuel-rich environment and I guess that that methane that they're entering that prevents hazards, or re-ventilate. Now, re-ventilating, if there had been a coal fire, history shows us that if we re-ventilate what was a coal fire, it flares up again and its evidence that at Pike when air's got back down the portal, they'd be in the same situation they were pre-sealing.

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10 Q. You referred to leakage around the Slimline, can you just explain what you're referring to there?

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A. It only became evident after the vent shaft was capped and the GAG was still operational and what was seen was, what we believed to be, steam issuing out of the ground and also high concentrations of carbon monoxide, carbon dioxide in smell. I guess, once the vent shaft was capped, the gas that was being pumped in by the GAG, no longer had the easy route out through the vent shaft and it found another way, which was the cracking around the Slimline, it was, I think, mentioned yesterday as well, and efforts put into sealing that up, which is very difficult. So, even sealing there's no guarantee that we would've had an effective seal because of what's happening around the Slimline.

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Q. So, given that geology, are you saying that it was neither easy, or perhaps, even possible to achieve a perfect seal of the mine?

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A. It's always difficult to get a perfect seal, and the example of the Slimline is obviously in hindsight when these decisions were being thought about that it was not something that came into thinking, we didn't know about it.

Q. I think you're at paragraph 9.7.

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A. "There will no doubt be a lot of comment that the mine should've been sealed sooner and that subsequent explosions compromised the recovery operations. It must be remembered that until the second explosion any re-entry to the mine was being seen as a rescue

operation.” And I’ll just point out, that was the way that I was seeing it. I had no advice to the contrary. “Sealing the mine to keep oxygen out would’ve compromised any rescue operation. It could only have been done if it was determined that there was no chance of survivability following the initial explosion.”

5

Q. Just pause there. Why do you say that?

A. I think if we sealed the mine, there’s no going back from that and if there had have been anyone still alive, if, that’s unlikely to be sustained. One, because we may have been cutting off air supply that they were getting through that ventilation, and two, we may have forced that explosion, that, even if they had an independent air supply, unlikely to withstand.

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Q. On the question of survivability, there was reference in cross-examination of Assistant Commissioner Nicholls to a briefing note, PNHQ.10365, in particular, at page 16 of that document, to a note at 2.44 pm on the 20th of November.

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WITNESS REFERRED TO PNHQ.10365

Q. If we can zoom in on the notation at 2.44 pm, which states that “There was a probe dropped into the ventilation shaft, 100 metres, 15 metres only CO₂ readings are between 1000 and 1060. At this height if these readings are correct, then it is unliveable.” Do you have any comment on that reference?

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A. Yeah, again, as a chemist, I’m assuming that that CO₂ is incorrect. That would be carbon monoxide, not carbon dioxide.

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Q. Why do you say that?

A. I’m interpreting, if they’re concerned about 1000 parts per million, 1000 parts per million of carbon dioxide is not going to hurt you. Carbon monoxide is a toxic gas. At 1200 parts per million of carbon monoxide, if you’re working, after about one hour, this is the standard person, you will collapse and three hours at rest. They’re just from the MacKenzie-Wood Mines Rescue book those numbers there. The other thing, though is, and I alluded to it earlier, the gas that we’re measuring at that vent shaft is a mixture of gases. That carbon monoxide may only be

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coming from the inbye section of them under workings, whereas outbye could have been fresh air. So you can't assume that everything in the mine is that concentration of carbon monoxide. And again, I'm presuming that it should be carbon monoxide, not carbon dioxide, to make that statement.

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Q. Part of the difficulty of course is we're just looking at one police briefing document?

A. That's right.

Q. We don't know the source of this information, but as a chemist looking at that data, I take it you would say that there was no way you could reach a conclusion that the mine atmosphere throughout the mine was unliveable at that time?

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A. That's right, from where that reading was made.

Q. Now I paused you half way through paragraph 9.7. If you can continue reading from the sentence that begins, "This should not...?"

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A. "This should not, however, take away from the concept or practice of parallel planning of alternative control objectives and strategies. For instance if the GAG or some other effective inertisation mechanism had been on site with required infrastructure already in place and the required risk assessments and operating procedures completed and approved, and it was deemed that there was no chance of survivability after the second explosion, then maybe the third and fourth explosions may have been avoided. Determination of the chance of survivability should have been a parallel objective. Post response it is difficult to determine if there were sufficient reasons for parallel planning. However, if this had been implemented it is likely that some control options would have been able to be implemented sooner. 10. The extent to which Pike River Coal's emergency response management plan, known as the ERMP, was implemented. I did not receive a copy of Pike River Coal's emergency response management plan until recently, so comment on a comparison between the documented plan and what I saw is limited to my memory of the events. My comments on whether the ERMP was implemented are limited to its

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implementation during the response to the events on the 19th of November 2011 and do not cover areas such as implementing training identified in this document or the responsibilities outlined in the document to keep the plan valid and accurate. Although entry to the mine was controlled at the front gate I was never issued with an emergency access permit as referenced in 1.2 of the ERMP. The nominated emergency control centre in 1.4 of the ERMP is the training room situated in the amenities area located beside the Mines Rescue room. When SIMTARS arrived on site the boardroom was being used to hold IMT meetings.” I just point out, this is just an audit against, it doesn't necessarily say that that influenced anything. “The incident management team outlined in the ERMP was not the structure observed while I was on site. There was no mention of the police although it does state that other people deemed appropriate may be invited to join the IMT. The definition of the IMT in the ERMP details the operations and mine manager as the incident controller.”

Q. Just pausing there. If we can very briefly have on screen DAO.001.00096, which is the emergency response management plan. At page 33 we have a diagram of the structure contemplated by that document.

WITNESS REFERRED TO DAO.001.00096

Q. Perhaps if we zoom in on the diagram. Do you have any comment on that structure as opposed to what you observed occurring at the mine site?

A. Again, this is on my memory so I don't remember who was wearing what vest and even what they were called, but that doesn't appear to be the structure that was operating. You know, if we look at the groups, it just didn't match with what was happening.

Q. Duty card 10, the information transfer officer, is that an aspect to the structure that you're familiar with from Queensland at all?

A. Not really, no. Normally it would be – in the MEMs structure it will be the co-ordinators of those groups that would be reporting back to the IMT. And even though there's three groups they're not the same, you

know, there's not parallel to planning, logistics and operations, the three underneath sorry, those three there.

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Q. I think you were at 10.6.

5 A. "Section 1.5 of the ERMP identifies an explosion as an emergency situation and therefore requires the emergency procedure to be followed. Although I have no knowledge as to if and what level the event on 19th of November was classed as, using guidelines set out in section 2.0 of the ERMP, I expect it would be classified as level 1, the most serious events. Although it may have happened I am not aware of the control officer recording telephone communications once informed that there'd been an explosion as detailed in 6.3.2 of the ERMP. As I did not arrive onsite until approximately 9.00 am on Saturday the 20th of November, and I apologise again, 2011 should've been 10, I cannot comment on the issue of duty cards or whether an IMT was formed as per 6.3.2 of the ERMP. Evidence of the issue of duty cards would be available by way of the duty card issue record if the ERMP was followed. It was noted that when we arrived on site it was obvious that certain Pike River Coal personnel were wearing duty card holder vests and acting in those roles. Further evidence of the issue and actions of duty card holders should be available either on the duty card taken or by way of additional notes as per the requirements detailed in 6.4 of the ERMP. The emergency management structure detailed in 6.4.1 was the structure that I observed to be operating. The team did not meet in the room nominated in the ERMP. Of interest is the statement in 6.4.1 that the IMT would be responsible for the management of decision relating to the incident. As is commonly known, with the management system put in place by the police the decisions were made offsite. The IMT structure detailed in the ERMP is not the same as ICT, I use the term ICT, I wasn't familiar with what the proper system was, used by the police, it does have planning, operations or logistics group. Not being the same structure as that used by police may have caused problems with interfacing the two systems."

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Q. Just pausing there. I think you said, "It does have," you need to say, "I think it does not have planning?"

A. Does not sorry. "Not being the same structure as that used by police may have caused problems with interfacing the two systems. Some of the duty cards, such as the information transfer office, DC10, may not have had a clear role under the police structure that was implemented. There was evidence that Pike River Coal had implemented a succession plan, as I saw incoming personnel replace staff onsite. This included key personnel with Mr Doug White and Mr Stephen Ellis, production manager, working opposite shifts. In 6.5 of the ERMP a power failure is identified in the emergency response actions. Although not personally witnessed it would appear that when it was first observed that power was lost the listed actions were followed, or at least attempted. There are no real specific actions identified in the ERMP to follow in the event of an explosion."

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THE COMMISSION ADDRESSES COUNSEL – APPLICATIONS FOR LEAVE TO CROSS-EXAMINE – ALL GRANTED

CROSS-EXAMINATION: MR HAIGH

20 Q. Mr Brady, can I refer you please to paragraph 2.4 of your brief?

WITNESS REFERRED TO OWN BRIEF PARAGRAPH 2.4

Q. And the last sentence that reads, "SIMTARS had not been contacted by Pike River Mine with any requests for significant assistance or troubleshooting with the monitoring system for at least 12 months prior to the explosion on the 19th of November 2010." Now, that doesn't take into account, does it, endeavours by the mine manager, Mr Douglas White, to first of all arrange to purchase a tube-bundling system and then to endeavour to lease a tube-bundling system?

A. No it doesn't. It's referring to the system that was in place at the mine site.

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Q. And although you may not have been specifically involved in the intended purchase and the intended leasing, you can confirm that Paul Harrison from SIMTARS was directly involved in it?

A. That's correct.

5 Q. With Mr White?

A. That's correct.

Q. And in terms of the tube-bundling, although you said that it's not fool-proof when you've got an explosion of, say, this magnitude, it is an additional monitoring factor which you should have if at all possible?

10 A. That's correct.

Q. And just finally, I think you can confirm, can you not, that Mr White has in Australia a reputation as a mine manager, or official, who has a strong focus on safety?

A. I've heard that said.

15 **THE COMMISSION ADDRESSES THE COUNSEL – ORDER OF QUESTIONING**

CROSS-EXAMINATION: MS SHORTALL

Q. Mr Brady you gave evidence that level 1 exercises are the major emergency response exercises conducted in Queensland each year, do you recall that evidence?

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A. Yes, that's correct.

Q. And do you understand that Doug White had been involved in conducting level 1 exercises in Queensland before he joined Pike River Coal?

25 A. That's correct.

Q. And what's your understanding of Mr White's involvement?

A. I recall one exercise, Newlands Northern underground and at that time he would've been the deputy chief inspector of coal mines, I believe, and he was onsite with a controlling role of the conduct of that exercise.

30 Sorry, could I just point out, I know that Mr White did have a controlling role, I think the chief inspector of coal mines was also onsite, but he

may not have been leading as active a role as what Mr White was. But he was certainly there in a lead role.

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CROSS-EXAMINATION: MR RAYMOND

- 5 Q. My questions are diminishing Mr Brady, as time goes on with the other counsel but I think we've established that with the destruction of the telemetric monitoring system, there was simply no gas monitoring available on site, correct?
- A. In the mine. There were still handheld gas detectors –
- 10 Q. Yes, apart from that. Is there a system available that can withstand an explosion and continue to provide information on gases within the mine?
- A. At this point in time, I'm not aware of one that's guaranteed to withstand.
- Q. And as you've indicated to Mr Haigh, that it's better then to have a tube-bundling system than not, in the event that it might survive?
- 15 A. Yes, that's true, and there's also, when – you ask me a question on tube-bundling. I'm not thinking of it purely from post, I'm also thinking pre.
- Q. SIMTARS installed the SafeGas system in 2008, which was connected to the monitoring hardware already there, did SIMTARS give advice to Pike River on its monitoring system generally?
- 20 A. You say that was already there. It was probably put in, in conjunction with the hardware. I can't say for sure that SIMTARS approached, although the general format of any quotation that we do for a SafeGas system, does a general system will include a tube-bundle system, but I
- 25 A. And you've already said to Mr Haigh that Mr White was in dialogue about the tube-bundling system over the course of 2010, it must've been, you're familiar with that obviously?
- A. That's correct.
- 30 Q. Were you giving advice generally to the industry or even in particular to Pike River Coal before Mr White came on board about the benefits and importance of having a tube-bundling system?

A. I'll answer that in two parts. First, yes, I've spoken at several mining conferences in Australia and overseas about the importance of tube-bundle systems prior to this. Personally, no, I was not talking to Pike River about the merits of a tube-bundle system.

5 Q. Did you personally when you were involved with Pike River in relation to the SafeGas system in recognising that they didn't have a tube-bundling system turn your mind to the consequences which might arise in the event of an explosion, the lack of analysis?

10 A. Two things there. I personally wasn't involved in the installation of the initial system, and secondly, when that system was installed it was a stone drive, at which point it would be unusual to have a tube-bundle system.

15 Q. Just on sampling, in your brief you talk about the vent shaft being the main sample point, in effect was it the only really probative sampling point at that time?

20 A. We like to get information from wherever we can. In the absence of contaminants, even by knowing we had say, fresh air going into the portal, that's information that we will use, so I wouldn't say that it is the only sample location that was going to give us information, but it was certainly the one that where we were seeing contaminants that enabled us to make some interpretation.

25 Q. Assistant Commission Nicholls said at paragraph 76 of his brief that at the changeover on the first day or say, may have just been a briefing at 11.48 on the first day, "Superintendent Knowles advised Police National Headquarters that a device was on hand that allowed for rapid testing of air samples." Would you know what that might be a reference to? Is that just the handheld device?

A. Sorry, at what time was that?

Q. This was at 11.48 am on the 20th?

30 A. SIMTARS would've been on site at Pike River at that time and it may be referring to the fact that we now had a micro gas chromatograph that does analysis in a couple of minutes, may've, I'm not sure.

Q. And reference was made to, "Mines Rescue had samples from four locations and hoped to have results at midday." At that early stage, what would those four locations be other than, we obviously know the vent shaft, do you know the other three?

5 A. You may have to direct that question to Mines Rescue. I can probably think of a couple – they would've been taking one from the portal, maybe they had access to the grizzly, I don't know. It proved to be difficult to get samples from, but they may have taken one and the Slimline, and then the vent shaft, so that's the four I can think of.

10 1225

Q. You said at paragraph 4.2 of your evidence that additional sampling points may have assisted?

A. Yes.

Q. Would pre-drilled boreholes have been of value?

15 A. Of value, yes that would give us more information, but they're not always, the pre-drilled ones aren't always where you want them to be. We certainly would have had additional information. It's very hard to say what the results would have been from. It's not clear what information we would have got from them, depending on where they were. Useful information, but it wouldn't have been a means to eliminate the need for further boreholes.

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Q. How common is it in mines throughout Australia to have pre-existing boreholes for the purposes of emergency gas analysis if needed?

A. I'm unsure if a borehole is ever drilled pre for emergency gas analysis.

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There are boreholes that are available that are used.

Q. And do mines in Australia that you're familiar with have equipment on site ready to use in the event of an emergency for emergency borehole drilling or is it something that's always contracted in, do you know?

A. I'm not a project manager or contract manager. They may have one on site from a contractor organisation but that's not a question I'm really able to answer.

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Q. Just finally, on the partial sealing point and the sealing issue. You'll be aware from the evidence that some experts from Mines Rescue, New

South Wales Mines Rescue and I think even Queensland Mines Rescue did discuss and apparently favour that at some point the idea of partial sealing of the mine. Are you aware of that?

A. I've heard that.

5 Q. And have set out and explained your opinion on that and the possible disadvantages of that. Rather than me try and put to you what the competing case is because I'll probably get it wrong, but are you able to articulate what might be in favour for a partial seal?

10 A. And again, any decision like this is not just going to be here's an idea, let's do it. You would need to go through the process, you know, risk management process. What are going to be the consequences? What are we going to achieve, manage by objectives? But again, I'd just be concerned that if we did a partial seal, what were we trying to get to happen and does that eliminate the risk of a secondary explosion? Well
15 I don't think you can say it does.

Q. Well again, the flipside of that. What would the proponents of that idea been hoping to achieve? You must be familiar with that?

A. Well I assume what they're trying to do is to quench any fire by starving it of oxygen.

20 Q. And is that done with a partial seal by capping in this case the Slimline shaft and the vent shaft but leaving the portal open?

A. That's, I guess you'd have to look at what the mechanisms that they were proposing. It's a bit hard for me to second-guess.

25 Q. So you weren't involved in discussions on a partial seal when you were on site?

A. No. My first discussions about sealing would have been after the second explosion and it's worth pointing out I was there for gas analysis and interpretation of those results and providing advice where required.

30 Q. You weren't involved in the discussions but were you aware that they were going on prior to the second explosion?

A. I had heard some people mentioning it but I heard lots of things.

CROSS-EXAMINATION: MS ANDERSON

Q. Mr Brady, you've referred in your evidence to the 1999 legislation in Queensland that provides for the requirement to have an expedited process for sealing, inertising and recovering without continual explosions. Can I take it that that legislation is part of the ongoing response that the Queensland state has had to putting in place specialised legislation in quite a prescriptive way to deal with mine safety and also responsibility in the event of an emergency situation?

A. That was a long question, sorry.

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10 Q. I suppose the short of it is, Queensland's got a particular history of coal mine explosions and it has quite a distinct legislative framework that has over time been added to to create a specialist response and recovery mechanism?

15 A. There are elements, when you said, "Prescriptive," I guess that's where I stopped because I would say that, and lots of in Queensland will say our legislation is enabling, we don't say, "You will do –"

Q. Enabling descriptive, it's quite clear for everyone on that legislation where the responsibilities lie?

20 A. Yeah, and you're right that the requirement for GAG docking stations and the sealing of the entries to the mine are as a result of Moura No. 2 and the hardware that we have in the state, being the GAG jet engine.

Q. And in fact the history of SIMTARS itself, as you've said, is borne from the past experiences that have recognised the need for an entity such as SIMTARS?

25 A. That's correct.

Q. And probably that same background that has led to the creation of the Queensland Mine Rescue Service?

A. Yeah, they outdate us by a long way though, but that's right.

30 Q. Yes, they go back much longer in time. What's the relationship between SIMTARS and the Queensland Mine Rescue Service?

A. I would say that it's a good working relationship. The task group that I've been on for mine re-entry is headed, quite right so, by Mines Rescue. And it also involves New South Wales Mines Rescue

and their own components in the SIMTARS in New South Wales, but we work well with Mines Rescue.

Q. Is there across the other states of Australia, is there a similar entity such as Queensland Mines Rescue Service with its specialised GAG facility?

5 A. Not a GAG but they have their own inertisation and Mr Devlin would be better poised to answer that.

Q. The Queensland legislation is not replicated in its entirety across the different Australian states is it?

A. Although there is work at the moment on a harmonisation.

10 Q. That's what's going on at a federal level?

A. Yes.

Q. So is that seen as a need to create perhaps an imprint of the Queensland model across other states of Australia?

15 A. That'd be the view of me as a proud Queenslander but not necessarily the same as from New South Wales. And I'm not going to profess to be a legislation expert.

Q. I'm not intending to put you in that position but I was just curious as to your thoughts as to what might have led to the other Australian states not adopting the Queensland model in the period the last 10 years or so?

20

A. Depends on what you say the model, the whole legislation or GAG docking stations?

Q. Usually you have to look at a model as a whole don't you?

25 A. Again, I'm not a legislation expert but I would've said there wasn't a big gap between us and New South Wales.

Q. In terms of across the Australian states does SIMTARS lend support to training and emergency response scenarios in other Australian states?

30 A. Training, definitely. We have done previously some work commercially for running level 2s along terminology because it's not under their legislation, but simulated exercises at mines in New South Wales.

Q. And how similar or different have you found the structure of the IMT and the response across –

A. Personally I wasn't involved.

Q. Under the, "Any response to a coal mine situation," and I'm asking whether you would agree with this or not, there is the potential for attention between maintaining the asset and going into effect a rescue or a recovery. Would you accept that those two interests might arise?

5 A. That's hard for me because I can honestly say that is the last thing on my mind when I attend.

1235

Q. I'm sure, absolutely.

A. So I'm not going to comment for anyone else.

10 Q. In terms of the responsibility of a mine manager in the Australian scenario, that you've talked about in your evidence, is that mine manager's got fixed statutory responsibilities in relation to rescue attempts. Is that correct?

15 A. I guess that depends on what you imply by rescue attempts because you will have rescue being effected by Mines Rescue who also have responsibility and the ability to say yes or no. So, the ability to say, "No."

20 Q. That's right, so if the rescuers themselves don't feel that it's safe to go in there's no way that anyone under the Australian model could direct them to go in?

A. No.

25 Q. And pretty much as we saw occurred on the ground here in Greymouth, at the Pike River Mine, that the Mines Rescue people with the advice of yourselves and others, were all turning their minds to, "Is it safe to go in or not?"

A. (no audible answer 12:36:18)

Q. Can you say, "Yes," please for the record?

30 A. Well, I don't know what made them, whether it was them individually or that the control that the Mines Rescue, guys like Trevor, had over the men. I'm sure they wanted to go in, so I'm not sure whether I convince them that they're not to or whether it was the structure they had in place that stopped them. Sorry, I can't comment on that.

Q. So, we can talk with Trevor about whether the internal discipline –

A. That's right. There was a mechanism that stopped them going in, what it was that made it work, I can't comment. I'm glad it happened.

5 Q. So when, under the Australian model when you've had training exercises, so you've got the mine manager as the incident controller, the whole focus under those exercises has been on whether or not you can go in?

A. Not the whole focus, no.

Q. How would you characterise the focus?

10 A. It will be determined on each exercise, but I think I listed, a lot of it is just as much importance for the guys at the face to establish and to experience what it's like to get out of the mine, putting on a self-rescuer, so there's many learnings underground as what there are on the surface. It's an encompassing exercise.

15 Q. Yes, that would be the preparation and readiness of everyone in advance of an accident occurring?

A. Not only the readiness, but testing that system when it's in place and we get positive feedback on guys who are put in that situation and saying, "Well I now can get some idea of what it would be like."

20 Q. And when you're dealing with those training scenarios, how do you factor in the thinking or planning or of options such as sealing. Can you explain to us or just give us a sense of what's been weighed in those training exercises, just by way of a sort of snapshot?

A. Well, it's not a training. We've given them a scenario and we then watch what it is that they do.

25 Q. And you audit what they do?

30 A. That's right and make comment and it's not just us, we've got industry representatives. You will have undermine managers watching and at the end can say, "Did you think about this," you know, "You didn't run a ventilation simulation before you started up the fan." It's not a test as such, with here's the right answer, it's watching what they do and how it works.

Q. It's part of your continual improvement process isn't it?

A. That's right and that's one of the objectives is that we get findings that don't just stay with that mine, and this goes down to the level 2 exercises and 3s as well, is that we then want to disseminate that information to industry so that not everyone has to learn from their own mistakes.

5

Q. What I'm asking in relation to those scenarios which you've audited whether there's anything you can tell us about the thought processes that might be applied in those scenarios to sealing the mine. Does anything spring to mind that you might have dealt with in one of those scenarios?

10

A. Off-hand I can't think because the exercises generally run for one shift, maybe 12 hours, so by the time we actually get the guys out from underground, there's a couple of hours. There probably is never progressed that far. It maybe, "Yes this is what we'll be considering," but we wouldn't go fully down that path.

15

1240

Q. So it's testing, so a short term, not a long sustained response like we, unfortunately, experienced here at Pike River?

A. Well no. A mine's not going to stop producing for a week for us to test their systems. We have tried to do it at shift changeovers and at night-time so we can gauge the effectiveness of the handover of information so we actually do get that incident management team changing over, but generally they're a 12 hour exercise.

20

Q. And do some of those scenarios include multiple fatality or possible multiple fatality scenarios?

25

A. They have done.

Q. One of the aspects –

A. Sorry, I just point out. We did get feedback once, and it doesn't always come into play, but even in the scenario the mine came away feeling like they hadn't done a good job because there were fatalities in the exercise, even though that was the initial incident, so sometimes there's, I guess, we don't necessarily try and plan that.

30

Q. And it's natural, isn't it, that everyone's attention and energy is focussed on avoiding fatalities? Can I just have brought up on screen CAC0088/40, Ms Basher? This was one of the documents that you were referred to earlier. It's the report into the upper big branch explosion. Ms Basher, if we could highlight the bottom right hand corner of that page, which is page 36 of the report?

WITNESS REFERRED TO CAC0088/40

Q. Do you see the second paragraph there records, "Since the disaster, family members had expressed concern that there were company officials who rushed into the mine after the explosion and queried whether they'd been attempting to locate and cover up evidence of corporate wrong-doing." And that records the fact that it was motivated only by desire to rescue those trapped in the mine, but the question I've got to put to you in relation to that is when we read that we can see the natural tension between the interests of a company perhaps acting in the best interests of those that are in the mine and the risk of perception that the actions of those who are associated with the company might be construed later on as having some negative or pejorative motivation. How have you – have you encountered that aspect in any of your scenario planning and auditing that you've been involved with?

A. No, because they would be the actions of the people involved and I can't see anyone that's being audited go in there to cover up something that didn't really happen.

Q. You've not experienced anything that would give you a sense that that was a motivation in any the scenarios you've worked with?

A. The scenarios, I guess, aren't the vehicle where you would have a need to do that.

Q. I'd just like to refer you to a couple of extracts of Mr Singer's brief of evidence. Ms Basher, that's SIM0002/13, paragraph 79, can we just have that paragraph 79 highlighted, Ms Basher?

WITNESS REFERRED TO SIM0002/13

Q. So that records that, "The IMT achieved its primary responsibility and that no one was seriously hurt during search and rescue phase," and

we've heard Superintendent Knowles refer to that yesterday in his evidence. Just interested as to whether you agree with that statement that that's one of the aspects that worked well at Pike River?

5 A. I would've said yes, up until yesterday or the day before I was not aware of what I'd classify as a near miss, with that, I guess, heavy ducting that was on the Slimline. I was not aware of that, so I guess that surprised me and otherwise I would've said, "Well yes that was good," and there's certainly a lot of tasks were conducted that were controlled.

1245

10 Q. In that event in relation to what has been described as "the near miss," that occurred in the early phases of the operation, the rescue operation?

A. Well, what happened at the time of the second explosion?

Q. On the 24th?

A. Yes.

15 Q. And as far – have you had any involvement with the risk assessment documentation that was prepared in relation to that?

A. Very little.

Q. And I think we've heard, and part of the criticism in fact is that the risk assessment process became more robust as the rescue and recovery operation proceeded?

20

A. I'm sure it did, but again I didn't have a lot to do with risk assessments.

Q. So it wouldn't surprise you if police saw the need as risky events were evolving, to actually have quite a robust process around decision-making?

25 A. And I totally support a robust process around decision-making, but it's got to be an efficient, and I did the same myself by engaging Professor David Cliff.

Q. And Ms Basher, can I just have you bring up paragraph 105 of Mr Singer's brief. Mr Singer's recording that in his view police were approachable and acted on feedback. Was that your – do you agree with that statement?

30

A. Certainly approachable and I guess like anyone people make decisions. They may have other influences. They're not just taking on board what I think.

Q. No, there are a range of inputs.

5 A. Mmm.

Q. Did you see anything that suggested that police were not acting on feedback?

A. I guess I say in my brief that the feedback or, you know, commentary, whatever you want, advice, the one that would concern me the most is that we tried to get the GAG initiated as soon as possible and, well it didn't happen.

10 Q. And just finally Mr Brady, in relation to the GAG, between the period of the meeting that you've referred to attending on the 23rd of November in relation to discussions about the GAG, in your view is it possible that the company could have commenced some of the planning around the infrastructure needed to actually hardwire the GAG in once it got here?

A. Could they of?

15 Q. Yes.

A. Well it was probably best done with the GAG operators.

20 **RE-EXAMINATION: MR MOUNT - NIL**

THE COMMISSION ADDRESSES MR BRADY

QUESTIONS FROM COMMISSIONER BELL:

25 Q. Can I just ask you to comment on mutual assistance schemes and what do you think, they would be applicable here in New Zealand where mines are comparatively small?

A. Yeah, and I think it was evidenced that the number of Spring Creek people that were at the mine, and mutual assistance is drawing on neighbouring mines to help you out, and I think it went a step further than what we would see it as in Queensland where it's Mines Rescue teams from a neighbouring mine coming to help. It went to the level, and it was great to see, the likes of Robin Hughes and we heard

30

yesterday I think that the seven mine managers that were available at the mine site. A lot of merit in it.

Q. Just going to what Ms Anderson was saying about legislation. Coalmining in Australia really occurs only in two states. What states are they, Mr Brady?

A. Queensland and New South Wales.

Q. So it's reasonable for them to have legislation that's actually different from the other states of Australia?

A. We've heard a lot over the last couple of days about mining being very different, you know, the hazards that are associated with it so having legislation that suits what they do is appropriate in my opinion.

1250

Q. And this legislation was derived really from a range of mining disasters, is that the case?

A. That's right. And the biggest being the changes that were seen after the Moura No. 2 disaster.

QUESTIONS FROM COMMISSIONER HENRY

Q. In regard to the standard 08 conduct of mine emergency exercises, that's issued by the Chief Inspector of Mines I understand, as a standard, coal mines.

A. There may be a technicality, I've lost it. I think they may actually be released by the Minister but it'll be put up by the chief inspector.

Q. By the chief inspector. And the results, whether it's level 1, 2, 3 or 4 are publicly disseminated?

A. Not necessarily publicly disseminated in the formal means that a level 1 is but the reports from the others go back to a district inspector and the industry safety and health representative, and if they see some key learning areas they will then disseminate that to the other mines.

Q. In relation to level 1, are those results publicly disseminated?

A. They are. There'll be a report that's written and that's available on the DD website.

Q. So that would be available to the New Zealand Mining Industry and to the Department of Labour here?

A. They would be.

Q. Yes.

5 A. Maybe not the back catalogue but certainly most recent years, yes.

Q. How do you in Queensland create a climate whereby people fully and frankly identify deficiencies, let's say at level 3 or level 4, wherever the mine itself is doing it, have you created a climate where they are free and frank about the deficiencies and lessons learnt?

10 A. I'll probably say that you're best place to ask that question to Mr White from the CFMEU because he's one of the people that gets that feedback, I don't get it, I can't gauge it sorry.

QUESTIONS ARISING – NIL

WITNESS EXCUSED

15 **COMMISSION ADJOURNS: 12.53 PM**

COMMISSION RESUMES: 1.57 PM

MR HAMPTON CALLS

TIMOTHY DAVID WHYTE (AFFIRMED)

5 Q. Your full name Timothy David White, you reside in Mackay in Queensland and are you presently an industry safety and health representative, ISHR, sometimes known as a check inspector in Queensland?

A. I am.

10 Q. I think you've made some evidential statements for this Royal Commission. The first on the 28th of June 2011, CFMEU.0001, and the second, a couple of days ago 13th September 2011, CFMEU.0016. Subject to one correction on the original evidential statement, which I'll come to in a moment, do you confirm the contents
15 of your two evidential statements?

A. I do.

Q. And the correction that occurs from paragraph 66 on, and it's only spelling, it's a reference to a Police Inspector Paynter, P-A-Y-N-T-E-R, the T has been left out of Mr Paynter's name all the way through?

20 A. That's correct, yes.

1400

Q. In your initial evidence statement, and I'm not going to get you to read it, from paragraphs 1 to 7 initial evidence statement, and I'm not going to get you to read it, from paragraphs 1 to 7, you set out your mining
25 experience, some 25 years of underground mining experience including 20 years of underground coalmining experience?

A. That's correct.

Q. And the last five and a little bit more years as a check inspector as a industry safety and health representative?

30 A. That's right yes.

Q. In that initial statement of evidence of June this year from paragraphs 9 through to 37 and I'm not going to get you to read it, but it's in your

document, do you cover something of the history and the roles of a check inspector in Queensland?

A. That's right.

5 Q. And do you discuss and attach as exhibits some of the relevant Queensland legislation including on, for example, two egresses to a mine and touching on and attaching a judgment from the Court of Appeal in Queensland as to the Grasstree Mine and the issue that arose there over two egresses?

A. That's correct.

10 Q. From paragraph 38 through to the finish of your initial evidential statement, do you then deal with your involvement with the Pike River matter, the rescue and recovery operations?

A. That's correct.

15 Q. So, if you turn please to paragraph 38 and we'll start there and I will get you from time to time to give the Commission cross-references from your evidence to the Queensland Mines Rescue Services institutional brief which is QMRS00011, under the name of Mr Hartley dated 15 July 2011? Have you got a copy of that institutional report with you as well?

20 A. I do.

WITNESS REFERRED TO QMRS00011 – INSTITUTIONAL REPORT DATED 15 JULY 2011

Q. At paragraph 38 then, if you just read that paragraph and then we'll move from there, thank you.

25 A. "After the second explosion of Pike River Mine on the 29th of November 2010."

Q. Sorry, 24th November.

A. 24th? "I was advised by Mr Wayne Hartley the manager of Queensland Mines Rescue Services, QMRS, the New Zealand government had requested the mobilisation and deployment of the QMRS' GAG to assist
30 in the rescue and recovery at Pike River Mine."

1403

Q. Now in the next two paragraphs, 39 and 40, you cover what a GAG machine is and its purposes?

A. Yes.

5 Q. At paragraphs 41 to 47 do you then relate your initial involvement with, and your coming over with the GAG machine itself and its crew, arriving in Hokitika early 6.30 am on 26 November 2010?

A. That's correct.

10 Q. That takes us through to paragraph 48 of the statement of evidence, Mr Whyte. I wonder if you could please read the next three paragraphs, 48, 49 and 50 please.

15 A. Certainly. "I attended the Pike River Mine at or about 0920 hours with half of the GAG team. The other half of the team stayed at our accommodation in Greymouth. We signed in at the Pike River Mine administration and met with mine general manager, Mr Doug White. Mr White invited Mr Hanrahan and myself to attend the incident management team meeting scheduled for 1300 hours that day."

Q. Just pause there a moment. Mr Hanrahan has already been covered in parts of your evidence previous but not read. His position was what?

20 A. Mr Hanrahan or Clive Hanrahan's position was he was in charge of the GAG team and its operation.

Q. Paragraph 49.

25 A. "There were no Pike River Mine personnel available to induct the GAG team onto the site. Consequently, the GAG team was required to conduct its own site familiarisation including layout, inspection of the portal, surface plan, establishment of a no-go zone as required by QMRS standard operating procedures, reviewing of the GAG transportation trucks and developing a list of materials and equipment required for the deployment of the GAG. Further, we discussed very early that no risk assessments had been performed by Pike River Mine personnel or any other external agencies in respect to our role in the search, rescue and recovery operations. It was determined that these
30 needed to be undertaken by the GAG team with a high degree of urgency."

1406

Q. Just pause there a moment. Go back to your paragraph 49, when you say, "Establishment of a no-go zone." What do you mean by that?

5 A. On our arrival to, across the White Knight Bridge and making a right hand turn, walking up the road towards the portal, it was quite evident there was no firm barrier in place to keep people out of an area which one would be as termed a blast radius for the inevitable, if another blast did occur while we were in that area, and the second part was there was no gas monitoring or self-contained self-rescuers available for personnel
10 who were within that area but outside the blast radius. With an expulsion of gases that vast, not only would they be expelled out in the direction of the drift, but they'd also spill out into the surrounding areas, to which we identified and put the protocol in place. Later on there was a tag board set up at the bridge –

15 Q. We'll come to that in a moment then. Just to cross-reference that evidence to QMRS00011/6, please Ms Basher?

WITNESS REFERRED TO QMRS00011/6

Q. And if I could get you please to look at, in particular, paragraphs 5.6, 5,
20 which is establishing the GAG inertisation unit at Pike River and then .6, 7 and 8, and I'll read it out and then ask you to comment on it. "6. No pre-activity preparation for sighting the GAG unit had been carried out prior to the GAG unit arriving with QMRS staff having establishing and planning the sighting of the GAG unit. 7. Demarcation zones had to be clarified and QMRS negotiated with the police IMT and advised on a
25 GAG protocol for portal activity. These involved hours of work and zones of no-go, et cetera. It was also apparent that there was little knowledge of the operation of the GAG and the services needed for the successful running and support of the unit." You've read that evidence before Mr Whyte, your comment on that?

30 A. I have. That it correlates with the evidence I've put forward to the Commission.

Q. On the no-go zone then, can I also get you to look at your supplementary evidence of the 13th of September please, and in

particular at paragraph 16 and read if you have it there before you, paragraph 16, on that issue please?

5 A. "As I stated in my witness statement on the 29th of June 2011, I attended the portal with QMRS on the 26th of November 2011" – that should be 2010, sorry.

Q. Same mistake as Mr Brady.

10 A. Yes. "There was no evidence of a no-go zone or blast radius nor were given advice of such by Pike River management. Following the third explosion later that day, it was identified by QMRS and myself that the entry into the area adjacent to the portal but outside of the blast radius needed to be controlled. To this end, a tag board was established on the White Knight Creek Bridge together with the requirements that anyone entering that area be on the tag board would have a portable gas detector, carry a self-contained self-rescuer and notify the control room that they were entering. Subsequently a police officer was
15 stationed at the bridge."

1410

Q. If we go back then to your original brief of evidence of June this year, paragraph 51 and 52, if you could read please?

20 A. On or about 1200 hours on the 26th of November 2010 the GAG team had a brainstorming session in respect to the safety docking the GAG machine at the mine portal. We discussed the following matters during this session. Identification of a place of safety, as per the Queensland Mine Rescue service, standard operating procedure 014.
25 An IMT for running the GAG and evacuation. Removal of the large auxiliary ventilating fan and tubing for the mine's portal (Pike River Mine contractors to undertake this role). Civil works for location of the GAG which included building of the pad, water drainage from the mine and GAG, manufacture of the docking ring and establish turnaround area
30 (Pike River Mine contractors to undertake). The site layout including location of equipment, engine and tubes, fuel, mobile and stationary, water recirculation, personnel access to the pad, access to the portal for sealing, location of control panel and communications, gas monitoring

points for the GAG and portal, water for cooling the recirculation tank and fire-fighting and the location of compressed air outlets. Personnel structures set-up, commissioning and running of the GAG, in addition team size and rotation times, including management and personnel shift lengths and overlaps.”

5

Q. Then in paragraph 53 you say that there were identified 28 separate pieces of equipment, they're set out in your evidence, I won't get you to detail them, and in 54 you go on to refer to the civil works that were necessary before deployment of the GAG, the docking and the deployment of the GAG?

10

A. That's correct.

Q. Paragraph 55 then please, just the first sentence of that paragraph, if you'd read please?

15

A. “Prior to undertaking the civil works Pike River Mine contractors would be required to remove a large auxiliary fan and a substantial amount of tubing from the mouth of the mine portal.

Q. And in the succeeding three paragraphs, 56, 57 and 58, you have summarised, or expressed your concerns about that auxiliary fan, don't you?

20

A. I do.

Q. And in summary what were they really?

25

A. In summary, I found in my own belief it was a bit incomprehensible that a forcing fan would be set up at the portal of a mine which has just had a major explosion, or two at this stage, which could only lead to the supplying of air into the mine at a greater rate in as such that the mine at that stage the ventilation's being controlled purely by the barometer, the in-seam fan obviously wasn't working at this stage. The fan on the top of the vent shaft wasn't working and to position a fan in that area with the intent to turn it on, as I understand if there was no products of combustion detected or any other form of ignition source, briefly a bag of baloo.

30

Q. If I could take you then as well to your supplementary evidence of the 13th of September, to paragraph 5 and 6 of that supplementary evidence and get you to read those two paragraphs about the auxiliary fan?

5 A. "In his evidence Mr Doug White stated that, in words to that affect, of the auxiliary fan was installed at the Pike River Mine portal in order to ventilate the mine in the event that it could be proven no combustion was evident." And presumably, although Mr White does not state this, any other source of ignition such as frictional ignition.

1415

10 A. Without resiling from my evidence, at paragraph 57 in my witness statement of 28th of June 2011, and at best, for Mr White, the rationale was to achieve a positive pressure at the drift and mine workings than a blowing fan producing approximately 22 cubic metres per second of ventilating current would've been ineffective and inadequate due to the
15 fact that it was positioned two kilometres away from the mine's workings and the portal was not sealed around the outlet of the fan an appropriate analogy is the effective operation of a GAG."

Q. Turning to your original statement of evidence at paragraph 59, you talk there of attending an IMT meeting at 1.00 pm on the
20 26th of November 2010, and you name various people that were there including Mr Doug White, Mr Devlin, Mr Brady, Mr Watts, Mr Connel, Mr Hanrahan, Mr Poynter and representatives of the police and New Zealand Department of Labour?

A. That's correct.

25 Q. At that IMT meeting that you were at, paragraph 60, can you just read the discussion that's occurred there please?

A. "The discussion at the meeting centred upon options available for dealing with the mine. The options discussed were, A do nothing. B sealing the mine, C inertising using the GAG, D inertising using a Floxal nitrogen generator, E inertise using a mine shield by injecting
30 liquid nitrogen into the mine or, F intertise using a Tomlinson boiler to inject NO₂ and CO₂ into the mine."

Q. Just pause there a moment, we've probably heard something about the first four of those options, I'm not sure about using a mine shield by injecting liquid nitrogen, in short, what does that involve Mr Whyte?

5 A. It's another form of inertisation tool that's used, predominantly in New South Wales and it's transported compressed nitrogen that's taken to the mine and injected into the mine. That was discounted by the team that day, the IMT, due to the territory of distance and getting that gear available.

10 Q. And the sixth last option, "Inertising using a Tomlinson boiler." What, in short, is that?

A. Tomlinson boiler's work on the same principle with producing an inert gas, predominantly nitrogen and carbon dioxide. There are high-flow low-pressure affair but once again, it's sourcing a Tomlinson boiler, the size of them and getting the access for that boiler to be delivered to site.

15 Q. Turning then to your original statement of evidence, at paragraph 61, you say there the preferred option was to use the GAG. Just read those two next paragraphs please, 61 and 62?

20 A. "The preferred option was to use the GAG to inertise the mine as the GAG had high-flow rates and low-pressure and was immediately available. The objective arising out of the meeting was rapid inertisation of the mine using the GAG with the least risk to personnel and to reduce the risk to further explosion. It was determined that the GAG, familiarisation training, on its operation would be given to all personnel in the zone of influence, blast radius. It was also determined to follow
25 the QMRS risk assessments as a starting point on the set up and deployment of the GAG."

Q. Just pause a moment there. "Zone of influence, blast radius," that you refer to. Is that a different term for the no-go zone that you talked about earlier?

30 A. Well the zone of influence in that case was due to the nature of the GAG producing inert gas. Any leakage of that had to be monitored for as well, so it became a zone of influence outside the drift area.

Q. Thank you.

A. "Subsequent to the IMT meeting, discussions were held with the New Zealand Police and Pike River Mine management in regards to sealing the mine's portal with a specifically modified shipping container incorporating a GAG docking station."

5 1420

Q. Then paragraph 63 you move to the next day, the 27th of November, and you say the GAG team headed to Pike River Mine to complete the risk assessments. You see that?

A. That's correct.

10 Q. The risk assessments you say were for?

A. The sealing of the portal with the inclusion of the GAG docking station.

Q. And you say they were for the New Zealand Police?

A. That's who requested them, yes.

Q. And the other information you were seeking at that stage?

15 A. We were seeking the atmospheric condition of the mine, what the gas readings were being received especially with regards to the barometer, whether it was rising, falling or steady because it had a very large bearing on the placement of personnel.

20 Q. And that leads us to paragraph 64. If you could read that paragraph please?

A. Yes. "We were advised that monitoring in the vent shaft was out of action. Borehole number 43 could not be sampled due to high oxygen ingress (negative pressure) down the borehole. The sampling pump was substantially changed-out for a stronger pump but still no sample was gained. At this point, the only indicator of the mine ventilation was a piece of plastic tape attached to a rib bolt at the portal of the mine which was being used as a flow direction indicator. This plastic tape was safely viewed in the mine's control room via the CCTV."

25 Q. Paragraph 65.

30 A. "During that same day, we were advised that the modifications to the shipping container had been completed for the docking station requirements and it was on its way to Pike River Mine. We had a plan in place to divert the GAG gas product into the mine via the GAG

docking station, being the shipping container with controls in place for safety. A site layout plan was also completed (including no-go zones) and submitted for approval.”

5 Q. And at paragraph 66 you say you attended an IMT meeting. Was this a meeting back at Greymouth or was this down at the mine itself?

A. At the mine itself in the administration area.

Q. At 3.10 pm on 27th of November, and that’s where we start to correct Inspector Paynter’s name?

A. Yes.

10 Q. And he, you describe him as head of the New Zealand Police operation at the Pike River Mine about the operation of the GAG and the possibility of success in the advent of a roof fall. Can you just go on with that paragraph from there please, “A further question...”

15 A. “A further question was also asked about the sealing pressure for the GAG, the mine and ventilation shaft. We were advised that the start-up for the GAG was to be reviewed on the basis of the mine atmospheric information obtained from borehole number 43 when it was completed. We were further advised that sign-off was required for all gas sampling and grouting of boreholes. We were further advised that the sign-off to
20 commence GAG operations was in the hands of the New Zealand government and was being progressed.”

Q. Just go on reading then from 67 through to 73.

25 A. “On the 28th of November 2010, the QMRS team determined to stay in Blackball due to what was perceived as the New Zealand Police and Pike River Mine’s management having no control or management of the mine sealing and recovery efforts. Serious concerns were also expressed that QMRS was leaving itself open to legal liability by working and giving direction outside the QMRS team’s scope of work. During
30 the day, information came to hand that Pike River Mine had been breathing out.” I’ll clarify that. The tunnel shaft or the tunnel mouth had been breathing –

Q. Finish your paragraph and we’ll come back and you can clarify what you talk about there?

A. "... had been breathing out between at or about 1100 hours and at or about 2015 hours the day before, being the 27th of November 2010. It was completely inexplicable that the QMRS team was not advised of this development by Pike River Mine management and particularly so when we were so close to commencing GAG operations."

5

Q. Just pause before you read on then. You were going to make some additional comment about the breathing out thing?

A. Just for clarity. We were looking for the mine to be breathing out at that stage because it was as safe a time to be in the zone of influence.

10

Q. Sixty-nine.

A. "A meeting was convened between Mr Paynter, Mr Hanrahan and myself. The principal purpose of the meeting was for us to express our concerns over the lack of action and assistance from Pike River Mine management. I requested the New Zealand Police tell Pike River management in no uncertain terms to start sharing information and providing assistance.

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A. Mr Hanrahan advised Mr Paynter that if Pike River management did not start sharing information and providing assistance as requested, then we would pack up and head back to Australia. We requested that all parties involved in the rescue and recovery operation communicate with each other and that any written direction or information on requested tasks to be signed-off by Pike River management, being Mr White. We advised the plan of the New Zealand Police at that stage was to fully seal the mine after the GAG had inertised the mine and had been removed. Mr Paynter asked why a significant aspect to our risk assessment for the GAG operation was ranked high. We advise him this was due to the fact that the mine sealing plan was not complete, available or for that matter even started. We reinforced the need that we needed to be given mine atmospheric readings and that we ought not to have to chase these all the time. Mr Hanrahan advised Mr Paynter that he would have no more involvement in IMT meetings. I advised Mr Paynter that the manager of one of the Pike River Mine

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contractors whose employees were installing the docking station had approached me for assistance. I advised Mr Paynter that he had asked me if I could train his employees in the use and operation of self-contained self-rescuer devices and compressed air breathing apparatus and to provide an overview of how gases and ventilation systems work. I advised Mr Paynter that he told me that he had approached Pike River Mine management with the same request but was told to see QMRS or myself. I now understand that New Zealand Mines Rescue eventually trained these employees.”

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10 Q. Just pause there please. If I could have up, please Ms Basher, QMRS00011/6, highlight section five, paragraph nine? I think it goes onto the next page as well please. We're one page too far on, sorry. It's six and seven, rather than seven and eight please Ms Basher, my fault.

15 **WITNESS REFERRED TO QMRS00011/6**

Q. If I could just read out then, nine, and I'll get you to comment on it, if you would? “There was a concern that QMRS was now being asked to fulfil other roles because of the lack of resources. QMRS established the idea of using a modified shipping container, sea container to connect the GAG unit to and form an air lock at the mine portal. The container modification was carried out by QMRS personnel site contractors and Pike River Coal personnel in consultation with Pike River Coal.”

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A. That's correct.

Q. Do you agree with the contents of that paragraph?

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A. I do, yes.

Q. Well now if you go then to paragraph 74 and 75 and read those to us please, this is of your original brief of evidence?

A. “On or about 10.10 hours we were advised that the Pike River Mine was breathing in. At or about 11.30 hours we formulated a plan to head back into Blackball where we were now accommodated to review the risk assessment on the docking station and sealing process. On or about 14.00 hours on the 28th of November 2010, the fourth explosion occurred. The main fan was blown off the vent shaft and greater than

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20 metre flames were emitting from the vent shaft. In addition, portal intake ventilation flow slowed to a virtual non-existence. I believe this occurred due to major strata fail within the Pike River Mine blocking airflow. On the 29th of November 2010, I again attended the Pike River Mine with the QMRS team. At or about 10.30 hours we were advised that the ventilation in the drift was due to no barometric pressure variance and that at diurnal change times the mine would be breathing in.

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10 A. At or about this time the GAG docking station in the modified shipping container was ready to be placed on the constructed concrete pad at the mine's portal. The plan for commission the GAG was that after a modified shipping container was in place both ends would be open and the GAG would be started. Once the GAG had started personnel using
 15 CABA would close one of the shipping container outbye doors and then the other outbye door would be closed also by personnel under CABA. However, it was identified when wheeling the shipping container into the mine's portal that the inbye shipping container doors would hinder the operation of the GAG due to the incline of the drift incline. The decision
 20 was made to remove the inbye container doors and install a canvas curtain to be closed after the mine had been inertised and which New Zealand Mines Rescue could later use as an airlock. QMRS subsequently decided to leave out one of the outbye doors of the shipping container during the inertisation process."

25 Q. "Leave one of the outbye doors open during inertisation process."

A. It was actually one of the inbye doors. The reason we did that was the angle that the shipping container had to be lifted to to go into the drift meant that we would've torn the door off from the inbye side so that was removed. If I read that correctly?

30 Q. You then go on at paragraph 80 to say you attended an IMT meeting at 1.00 pm on 29th of November, where there was discussions about sealing the mine, safe access and gas sampling?

A. Yes.

Q. And 81, 82, 83, 84 involve the preparations leading up to the successful installation of the GAG at the mine portal at 6.10 pm that day?

A. That's right.

5 Q. Can you go back to one of those paragraphs then and read it to us please, paragraph 82?

A. "The plan for the installation of the docking station involved the use of airbags around the shipping container to expand the surface of the seal to prevent the ingress of oxygen. The use of an excavator to place sand and gravel around the shipping container and the mine's portal to further
10 impede the ingress of oxygen and the use of shotcrete to stabilise and reinforce the whole structure. At no stage was the use of polyurethane resin, PUR, proposed for the installation of the docking station at the mine's portal. In fact its use was expressly ruled out in the risk assessment because of the potential for an exothermic reaction."

15 Q. Just pause there for a moment before we go on with the polyurethane. I cross-reference you again to QMRS, Queensland Mine Rescue Services 00011/7 please Ms Basher. And on that page, the paragraphs marked 12 and 13, if we can highlight please. I'll just read those quickly to you Mr Whyte. "On 29 November the GAG equipment was moved
20 down to the portal area. There was limited and restricted access to the area where the GAG unit had to be established, ensuring an explosion zone in case of further events. The site preparation for the GAG unit was largely organised and prepared by QMRS staff with the assistance of some mine staff. It was noted that time restrictions had to be
25 observed as the portal would breath out during the night and morning and breath in at lunchtime and to early evening. The monitoring of this was established by a small plastic tell-tale at the portal entrance. The time observation was 10.00 am in the morning. All crews must be clear of the portal till seven in the evening. This hampered the construction of
30 the deck area for the GAG unit operations. Thirteen limited gas monitoring points were being undertaken at this time from the site known as the, "Grizzly," and a borehole known as Slimline. This was a concern as it only gave limited intelligence on the mine environment.

This was to be consistent across the duration of the operation in relation to environmental gas monitoring, the lack of access, the general environmental condition having significant impact on sample lines and available points.

5 1435

Q. This meant that the reading had limited consistent trends which would be expected with the severe storms and lines had to be replaced repeatedly, days were lost in line replacement by mine staff. Consistent time scheduled monitoring is best practice in order to have confidence in analysis of the information. Conditions including the extreme weather for maintaining gas sample lines were hampering all efforts to maintain gas monitoring. Your comments on those two paragraphs, Mr Whyte please?

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A. At the time I was at the mine I was unaware that there was issues with the weather and the gas sampling mine, but of the rest of those two paragraphs I concur with.

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Q. Can I then move back to the issue that was flagged about the polyurethane and take you to your original statement of evidence, reading paragraphs 85 to 91 please?

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A. "On the 30th of November 2010, on or about 0645 hours, a PUR fire occurred at Pike River Mine portal. The PUR had been pumped in and around the modified shipping container and an airbag itself ignited destroying the other airbags and CCTV feed. The fire was fought by the Royal New Zealand Air Force fire fighters using their onsite tender. The fire was eventually extinguished at, or about, 0800 hours. It was my understanding that the PUR was injected into the mine's portal area by Uretek Ground Engineering under the authority of Pike River Mine management. In my assessment too much PUR had been injected into the area in one go without any recognition to the potential exothermic reaction. In my view, the risk assessment developed for the docking station's installation at the mine's portal was simply ignored by Pike River Mine management."

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Q. We'll leave those photographs that are attached to your evidence, we don't need to go to those at the moment, 88.

A. "I attended the IMT meeting at or about 1000 hours on the 30th of November 2010. Mr Steve Ellis, underground mine manager, chaired the meeting in the absence of Mr White. The meeting was advised that the sealing of the Pike River Mine portal had been delayed for 12 hours due to the PUR fire. We were advised the PUR suppliers had not identified exothermic reaction with pooling and bulk supply of produce. I advised Mr Paynter that suppliers should have been aware of the dangers associated with the PUR. Following the extinguishing of the PUR fire, the destroyed airbags had to be removed from the mine's portal area and risk assessed before we continued the sealing operation with sand, gravel and shotcrete as per the original plan devised by the QMRS."

15 Q. Two things there then, before I move on, first, have you supplied to the Royal Commission a paper that is marked as CFMEU0015, which is a paper on the overview use of polyurethane foam in coal mines?

A. I have.

20 Q. And pointing to some of the difficulties of the use and the historical problems that the use of polyurethane has resulted in?

A. Yes.

Q. Secondly, can I get you to cross-reference what you've just told us to QMRS00011/7, paragraph 15 this time please?

WITNESS REFERRED TO QMRS00011/7 – PARAGRAPH 15

25 Q. It'll be up in a minute, I'll start reading it to you. Sorry?

A. Sorry, Q?

30 Q. MRS00011/7 and paragraph 15 please. It reads this way, if you listen while we're getting it up. "On the 30th of November, some 11 days after the first event, the portal was furnished with shipping containers, sea container, as part of the fabricated closure of the portal. Sometime later a significant setback occurred when the contractors arranged and engaged by Pike River Coal management used PUR, polyurethane resin agent, with a A and B products which generate heat during the

curing process which subsequently heated, caught fire approximately 0700 hours, inflated bags and other combustible products caught fire with QMRS and New Zealand Air Force extinguishing the fire. This was a significant setback to the sealing process of the portal and that you and the QMRS, PUR was an unsuitable product for this application. It was not clear who authorised PUR or who instructed the contractors.”
5 Your comment on that evidence in the QMRS’ brief?

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A. Once again, that complements the evidence I've submitted to the
10 Commission.

Q. Can I then get you to go please to your supplementary evidence of the 13th of this month? Take you to paragraphs 8 to 13 where this is covered, but in particular get you to read paragraphs 11 and 12 of that evidence please?

15 A. “Since filing of my witness statement dated the 28th of June 2001, I've attempted to obtain a copy of the risk assessment for the sealing of the portal. To this end, I emailed Queensland Mines Rescue Service, making enquiries as to such. I was subsequently advised by QMRS that whilst they were initially involved in the development of the risk
20 assessment, this was taken over by Mr Steve Ellis of Pike River and completed by Pike River Coal.”

Q. And you attach a copy of that email?

A. That's right.

Q. Then paragraph 12.

25 A. “However, I have obtained CCTV footage of the PUR fire at the portal on the 30th of November 2010 from QMRS. The footage clearly demonstrates the extent of the application of PUR. In order to fully inform the Royal Commission about the PUR fire, I provide the CCTV footage.”

30 Q. And there’s the reference to it there, and I wonder if I could have that, subject to the Commission’s pleasure, if I could have that played now sir. I think it’s about two minutes long and I've been given a note with

some times on it. Now Mr Whyte, before we start playing, what are we seeing on the screen there, can you tell me?

CCTV FOOTAGE PLAYED

5 A. That's the view from the portal CCTV camera looking back towards White Knight Creek.

Q. And it's playing now. The glow in the centre upper left just between the pole and the bulge, what is that please?

10 A. That's the beginning of the exothermic reaction or the exothermic reaction had already started. This is the, as you'll see by the droppings down you can see the small amount of ventilation going in there to oxidise that combustion that's occurring there now.

Q. Just while we're watching it, do you want to make any comment on the materials that we can see in the foreground here to the right in particular of the photograph?

15 A. That product there is PUR which has been bulk applied. As per the document given to the Commission and to be concise, it's a no-no to do such a practice for the evident reasons you'll see shortly.

Q. What's happening there, do you know Mr...

20 A. It's got to the stage now where actually the intensity of the fire and the heat is burning the PUR and it will self-feed itself.

Q. Sorry?

A. It will self-feed. See the amount of PUR there?

CCTV FOOTAGE CONTINUES

1445

25 Q. Any other comments you want to make on those images you've just seen Mr Whyte?

30 A. Just for the Commission's awareness that the, one of the by-products that comes off burning PUR is hydrogen cyanide, a very deadly gas. It's also a high carcinogen, so, yeah, the inclusion of the PUR added to, one, the delay, but if there were any – at this stage we knew there was no survivors, but if there were, then they would've been breathing in hydrogen cyanide.

Q. Then there is just some incidental matters, the balance of your supplementary evidence Mr Whyte, if you could turn to briefly, and I won't get it read in full, but having listened to some of the evidence in the past few days, and before that having seen some of it live-streamed in Queensland before you came over, did you want to make some comment, first in paragraph 14 of that supplemental evidence about a review of the deputy statutory report? I wonder Ms Basher if I can get this up and I'm not sure I you the reference – DAO.001029/44.

WITNESS REFERRED TO DAO.001029/44

10 Q. That's the deputy statutory report of 19th November 2010, by Mr Bisphan, I think it is. You've got some comments you wish to make about that form from your position and from your experience?

A. I do. With my role as industry safety and health rep in Queensland, part of the job is to audit coal mines for the effective safety of management system. Part of the safety of management system, which is also a mandate through our legislation is inspection reports and them being adequate and effective, being read, being able to discharge information and warn people of any unsafe nature or place. Point of view of the deputy statutory report of Pike River Coal –

20 Q. There's some seven bullet points that you want to refer to?

A. Yes. Blunt point of those that there was no sign-off by the deputy and shift co-ordinator to verify the report had been read and understood.

Q. That's the oncoming deputy?

A. That's right, yes.

25 Q. That's the handover from Mr Bisphan to whoever replaced him?

A. Exactly. I'll just reiterate that this review was done with my knowledge of Queensland law and what I'd expect to see at a Queensland colliery.

Q. Yes, I understand. Secondly?

A. Secondly, there was no adequate fire fighting equipment at the face.

30 Q. That's said so in the report.

A. In the report, yes. A smoke alarm was not in order from the changeover station to the face.

Q. That's said in the report?

A. In the report, yes. Recording of the barometric pressure does not state that the barometer is steady, falling or rising or what pressure type is being recorded, for example, kilopascal or millibars.

Q. And just pause there. The importance of that?

5 A. The rationale behind that with a mine that's like Pike River which is highly gassy mine, on a low barometer you'll have an increase of gas coming out of there soon, so more diligence and vigilance should be around monitoring for methane gas and other gases.

Q. Fifth point, railway dimensions?

10 A. Roadway dimensions were not in order as on the report and the only action recorded is the measuring of said roadway dimension. There is no mention of any corrective actions.

Q. Next?

15 A. In the outbye section of the report which is down the lower left, there is no indication or recording as to the state of the changeover station, the toilet, the telephones, or crib room. There is only a line through the yes or no options.

Q. Any comment on that, the importance of those things?

20 A. That they're all very important and no doubt they'd be part of, or they are part of Queensland safety on management systems around the mine and it – they're just a requirement. I would have to actually ask the deputy why he crossed out yes and no, unless they didn't exist at all, but that would only be an assumption on my part.

25 Q. We've had some evidence about some of those things. We'll just leave it at that, thank you. The last point then Mr Whyte?

A. The ventilation measurement for the exhaust equates at 27 metres per cubic second, not the recorded 15.9 metres cube per second as stated. To obtain the recorded 15.9 metres cube per second then the area of the exhaust would've had to have been 0.442 square metres.

30 1450

Q. That's a little difficult for me. Can you put that in layman's terms that we understand what you're talking about there?

- 5 A. A ventilation reading comprises of very simple multiplication, you need to know the area the ventilation is passing through. In this case it was stated at .5 I think from memory, so you need to know the area that the ventilation is going pass through and the amount of air you've got through it. So it's square metres, multiplied by metres per second, equates to cubic metres per second, well you need to know to ensure that you've got adequate ventilation. And there seems to be a simple -
- Q. Arithmetical mistake?
- A. Yes.
- 10 Q. Do you also provide in relation to that the relevant provisions of the Queensland legislation?
- A. I do.
- Q. For comparative purposes.
- A. Yes.
- 15 Q. Then moving to underground coal mine incident management Queensland. And we've heard some of this touched on already today from Mr Brady I think. But in your paragraphs 17 to 21 do you set out some of your knowledge of those matters?
- A. Yes.
- 20 Q. Including the incident management team at paragraph 19, perhaps read 19 and 20 for us please?
- A. "An incident management team would be formed comprising of senior statutory management, site scene executive, a general manager, the underground mine manager, ventilation officer and personnel with, for
- 25 example, specialist knowledge of methane drainage and geology who would liaise with external agencies such as the Queensland Mines Rescue, SIMTARS and the mines inspectorate. Prior to their re-entry the mines inspectorate and the industry safety and health representative -
- 30 Q. Just pause there. That means the chief inspector?
- A. That's correct, yes.
- Q. You have a role in this, chief inspectors have a role in this?

5 A. Yes, we did. "We must be satisfied that re-entry can occur at an acceptable level of risk. The mine will be classified as a crime scene until released by the Queensland Police Service. In other words, when they have satisfied themselves that it is not a crime scene and therefore a mining accident, the mines inspectorate who acts as overseer of the IMT. The only other time the Queensland Police Service would be involved is a coronial inquest for the purposes of giving evidence as to how and why they established it was a mining accident and not a crime scene."

10 Q. And do you then go on to comment on something that Mr Brady covered this morning, and indeed you attached as CFMEU.0023, the same exhibit that he produced as exhibit 28 this morning?

A. That's correct.

15 Q. And then just for final completion at paragraph 23 do you attach for the Royal Commission purposes a copy of the emergency sealing regulations that apply in Queensland and attach the relevant parts of the legislation over there about that?

A. Correct.

20 **THE COMMISSION ADDRESSES COUNSEL – EXAMINATION OF WITNESS**

1455

CROSS-EXAMINATION CONTINUES: MR HAIGH

25 Q. Mr Whyte, I act for Doug White. Your supplementary brief was only received by me this morning and the other Mr White has been down a mine, Bathurst all morning, so I haven't had much of a chance to put to him some of the issues raised, so you'll have to bear with me. But I want to ask you first of all about your paragraph 15 and 16 in your supplementary brief, in particular the no-go zone and your evidence which to a degree contradicts Doug White. When you arrived on the 30 26th of November, drove across the White Knight Bridge and turned right towards the portal. Did you see the incident tape stretched across the road?

A. The only tape that was visible was up near the portal, but I wouldn't classify that as a no-go zone.

Q. Not in terms of the Queensland model?

5 A. Well, I think in any model you need a barrier that can actually physically stop a person.

Q. So you accept that there were something like a crime scene tape the police supplies across the road before you got to the portal, but it wasn't adequate in your view, it wasn't fixed?

10 A. From memory, it was just a yellow tape. I don't recall any writing on that tape.

Q. No, but it clearly blocked off in a, not in a substantive sense, but it blocked off the entrance to the portal or the roadway back from the portal?

A. I don't believe so, no.

15 Q. Well let's see if you're right or not. Can I ask you please, Ms Basher, to pull up on the computer the photography booklet, and first of all page 69 please, photographs 001 and 0916?

WITNESS REFERRED TO PHOTOGRAPHY BOOKLET

20 Q. Now Mr Whyte, that's photograph 001 taken on November the 24th. You can see that, the tape stretched across?

A. Yes.

Q. Is that the tape that is back from the portal and that you saw on the day?

A. Correct.

25 Q. Having identified that, then I don't think we need to look at those photographs any further thank you. Now, the second issue I want to ask you about is the PUR, the fire we've seen so graphically demonstrated. Were you aware that the company, the contractor who laid the polyurethane accepted that they had laid it on too thickly and that was probably the cause of the fire?

30 A. Yes.

Q. And in fact are you also aware that feeling that embarrassed about it, they didn't seek to be paid for what they had done?

A. I'm not aware of that, no.

Q. But that was the cause of the fire. Insofar as the contractors were concerned, they'd laid it on too thickly, correct?

A. Yes sir, yes.

5 Q. The last issue I want to raise with you is auxiliary fan. Did you examine the auxiliary fan by the portal?

A. In what degree?

10 Q. Well I'm referring here to paragraph 5 of your supplementary brief. You've told us in paragraphs 5 and 6 about the inadequacy, you say, of the auxiliary fan which we all acknowledge was never actually used. Did you actually examine it?

A. Physically no.

Q. So you wouldn't be aware that it had four blades?

15 A. The only thing I'm aware of is it is an auxiliary fan. It had the words sprayed in red paint on the outside of the cowling saying "blowing fan" and an arrow showing the direction.

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Q. Right, well, my instructions are received about an hour ago, maybe two hours, were that this has four fans that operate within the auxiliary fan structure. Can you comment on that?

20 A. Four fans or four blades?

Q. Four blades, sorry, four blades.

A. Depends on the configuration and the type of the fan whether they have four blades, or eight or 16, depending on whether they're variable inlet fans, I'd have to look.

25 Q. Well, you've lost me there immediately. But let me put this to you, the instructions I've got, received, are that if you, in operating the fan, use two blades, then the cubic metres per second of ventilating current is between 25 and 50 cubic metres per second. Do you challenge that?

30 A. I will challenge that. Yesterday afternoon at a meeting with the family where Mr Steve Ellis was in attendance and the same fan as proposed to be used for the subsequent re-entry of the mine, I asked Mr Ellis yesterday, what size was the fan because I believed this by the nature and the size would be approximately a 22 cubic metre fan. Mr Ellis was

unaware of the size of the fan. He did not know, nor did the owner of the mine.

5 Q. No, but my instructions are that Doug White knows and that when you use two fans you get between 25 and 50 cubic, two blades sorry, you get between 25 and 50 cubic metres per second of ventilating current.

A. I fail to see whether you got 20 or 100. The placement of the fan in the portal, with ducting going into the mine, is only going to be relying on the diurnal change of the barometer.

10 Q. Right, now you may be correct in that, I don't know, but I am anxious to clarify what you say that from your, without examining it, your assessment was that the fan only provided 22 cubic metres per second, whereas the instructions I have received are that with two blades, you get 25 to 50 cubic metres per second, and when you use all four blades at once, you get up to 80.

15 A. I'd have to look at the compliance plate on the side to either agree or disagree with it. If your client says that that's what he's getting well that's what he's saying but I don't know unless I actually see the...

Q. You don't know?

A. No.

20 Q. But it detracts somewhat from your claim that the fan would only produce 22 cubic metres per second doesn't it?

A. No, I think you're missing the point there that it's the actual placement of the fan is now going to force air into the mine which we don't want this to happen. That was the reason. Even with the no-gos in place, the videos we saw, not yesterday the day before, there was people walking in and out of the portal quite willy-nilly, there was no control there.

25 Q. Well, I can't argue with you about that but I'm just pointing out that your 22 cubic metres is way out if the instructions I've received are correct. You'd accept that?

30 A. I'd accept that once I've seen the plate.

CROSS-EXAMINATION: MS SHORTALL

- Q. Now, Mr Whyte, you've given evidence about your so-called concerns over the lack of assistance from Pike River Mine management haven't you?
- A. That's correct.
- 5 Q. And do you recognise the name Steve Ellis?
- A. I do.
- Q. And you understand that Mr Ellis joined Pike River as its production manager just weeks before the first explosion?
- A. I was aware of that.
- 10 Q. And you understand that he was based onsite at the mine after the first explosion?
- A. That's right.
- Q. And his office was located in the main administration building at the site?
- 15 A. Correct.
- Q. And his office had a direct telephone number?
- A. Wasn't aware of that but.
- Q. Did you know that he was accessible by email at the time?
- A. No.
- 20 Q. You never raised your concerns with Mr Ellis though did you?
- A. Mr Ellis was on shift that day.
- Q. He wasn't on shift the day in which these concerns arose, is that your evidence?
- A. That's correct yes.
- 25 Q. You didn't take it upon yourself to follow up with Mr Ellis at any point about these so-called concerns did you?
- A. Not with Mr White and Mr Paynter being onsite, no.
- Q. Recognise the name Rob Ridl?
- A. I do.
- 30 Q. Understand that Mr Ridl joined Pike River as its engineering manager just months before the first explosion?
- A. I'll take your word for it, yeah.

Q. Understand that he also was based onsite at the mine after the first explosion?

A. Yes.

Q. Understand that his office also was located in the main admin building?

5 A. Could've been, I wouldn't know where he was.

Q. Never raised your concerns with Mr Ridl either did you?

A. No.

1505

Q. Recognise the name Peter Whittall?

10 A. Yes.

Q. You understand that Mr Whittall was Pike River's CEO at the time of the first explosion?

A. I do.

Q. Never raised your concerns with Mr Whittall either, did you?

15 A. No.

CROSS-EXAMINATION: MR MOORE

Q. Mr Whyte, I'm counsel for the police and the ambit of my questions are I'm just wondering if you're able to help us at all, relate to the appropriateness of mine management as a lead agency and/or incident controller. Do you feel comfortable or competent to comment on those issues?

20

A. I'll do my best.

Q. Well, let us know if you feel that you've moved into an area where you feel uncomfortable. I want to make it quite clear on behalf of the police that they have no particular desire to be lead agency, so they're not promoting the proposition that the police must be a lead agency, but there are a couple of propositions I want to put to you about the appropriateness of the company, the mining company being lead agency or incident controller. I mean, for example, if the company was not financially viable or it was fragile commercially, do you think that creates a problem at all in terms of its ability to perform that role,

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particularly in the context of the necessary resourcing issues which are implicit in that role?

5 A. Well, just to answer that question as best I can, the mining management are mining people and I think it's evident to the Commissioners and the courthouse here that we spend a lot of time, mining people explaining our terminology, mining methods, mining types to those that don't mine to try and gain some understanding for them, so if I get your question correctly, should the police have involvement in that area –

Q. Well it isn't. It's precisely not my question.

10 A. Right.

Q. My question is, if the company is in financial difficulties or is otherwise financially unable to provide the kind of resourcing support that these sorts of operations, particularly the large operations require, what do you say about the appropriateness of the mining company, or senior management associated with the mining company, being lead agency and/or incident controller? That's my question.

15

A. Right, I've got you, thank you. I still believe that should be the case. The mining community may not be large globally, but we are a very tight family, as you've seen from the result from Pike River, you've had people from all over the world offering advice and assistance. I believe that the mining management should still retain the decisions that's happening at their mine.

20

Q. Well, what about the issue say, for example, of the costs associated with say resourcing a GAG or resourcing the manufacture of a partial or fully inflatable seal, those sorts of things. You've heard that evidence?

25

A. Yes, I won't comment on, that is outside my experience and knowledge for costings and so forth.

Q. But do you see a problem at all with a company that isn't able to resource the sorts of things that are needed for recovery, sorry, rescue or recovery operation of this sort?

30

A. I do see a problem. I suppose being a simple coalminer that I would've put a few pennies aside for you know, such an event, not this degree of event, but for a rainy day in case you did need to resource.

Q. And of course, no one wants an event, anything like this, happening again, but again, the size of the event would be an influencing factor in terms of who might be appropriate in that role of lead agency and/or incident controller?

5 A. Well, not just the size but the duration of the event as well.

1510

Q. Exactly. You said duration, I'm sorry I didn't mean to interrupt you?

A. I understand what you're saying but I still believe that mining trained and experienced people need to be in control otherwise the reinterpretation of their knowledge to external agencies, which we assure we're working together as we attempt to do, well we do in Queensland through a tripartite approach to assist each other, so that would be my answer.

10 Q. Well we know, and it's on the record, that the costs of sourcing and putting in place the GAG was over \$NZ3 million, does that influence your decision at all in terms of the ability of a fiscally comprised company to be able to manage that sort of operation?

15 A. Correct me if I'm wrong but I understand that the New Zealand Government offered financial support to the mine with regards to the resourcing of external entities, agencies and equipment. So that would answer that I'd imagine.

20 Q. The next question I wanted to ask you, again in the same sort of vein, was whether you see any room for a conflict of interest commercially when a company or company representatives are involved in being lead agency and/or incident controller.

25 A. Could I say –

Q. What do you say about –

OBJECTION: MR HAMPTON (15:12:02) – STARTED TO ANSWER QUESTION

CROSS-EXAMINATION CONTINUES: MR MOORE

30 Q. I'm just going to put the question now Mr Whyte.

A. Right.

Q. What do you say about the appropriateness of the company, given the potential for a conflict between on the one hand the desire to preserve what is likely to be a multi-million dollar asset and the opposing potential interest of rescuing or recovering people who may be trapped in a mine, and I'm obviously talking about sealing here?

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A. Mmm. I think the priority of any mining company, and especially mining people, is in the event of a disaster such as Pike River is to assist in recovery of those individuals from underground. Our legislation's quite clear on that, we won't leave people underground again since 1994. The fiscal side of it, I really wouldn't like to comment because I'm not an accountant.

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Q. Do you agree that, at least in theory, there's a conflict there?

A. No, not really, no.

Q. What about the question of potential conflict of interest where there may be sitting in behind all of this the spectre, or threat of civil or criminal liability. I'm talking here about a situation where the mining company or officials may be concerned about civil liability or criminal liability and the potential that that concern might have in terms of their other and wider obligations to assist with rescue and recovery?

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A. Purely speaking from a Queensland's perspective, that's why we do have district chief inspectors to keep an eye on these things and the inspector as well. So it's not just one set of eyes, there's quite a few set of eyes. So we attend the mine, gather the evidence in conjunction with the Mines Department and also the coal mine workers at that mine. I don't believe that I know of any mining company in Queensland, well I'm not aware, that have done what you've alluded to.

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Q. There have been concerns, you'd be aware, along those lines expressed in other jurisdictions like the United States. You'd be aware of that wouldn't you?

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A. Yes.

Q. And perhaps Ms Basher if we could put up CAC0088/40, which actually has already been put up, but I'll ask you just to have a look at it again

and comment, and if you could, may we have highlighted please the second to last paragraph on the right-hand column, which starts with the words, "Since the disaster..." I'll just read that out. "Since the disaster," and this, of course, relates to the Upper Big Branch Mine explosion in Virginia last year in April when 29 miners were killed and one seriously injured?

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A. Yes.

Q. I'll just read it. "Since the disaster a number of family members have expressed concerns that the company officials who rushed into the mine after the explosion may have been attempting to locate and cover up evidence of corporate wrongdoing. While it's problematic for persons with an inherent interest in the outcome of an investigation to be alone in a mine following a disaster, Massey Energy has maintained that Blanchard and Whitehead..." - Blanchard was the company secretary and Whitehead was the senior mine manager - "... were motivated only by a desire to rescue those trapped in the mine." What that raises, doesn't it, is at least the spectre that some in the corporate sector may primarily be motivated by "protecting their own skins" to use the vernacular, rather than to look after others. Do you see that as a concern?

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A. I can see a concern in regards to United States mines, and this is an allegation that you put forward here. I don't know whether it's been proven or disproven in the courts.

Q. My understanding to assist you is that the FBI are investigating this at the moment.

25

A. Oh, so it's under investigation?

Q. Yes.

A. Once again, back to what I was saying there about United States coalmining. Fatalities they have in a year are phenomenal. You're looking I think up to date this past, so far this year sorry, from memory, on the net news that came through, I think we're looking at 87 perished alone in American mines so far. They work under a legislative framework that hands out speeding tickets, for example, which are then

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later challenged in Court by the large corporations such as Massey Energy. So it's a completely different framework around safety and health than what you have in New Zealand or what we have in Australia. Would it happen? It could.

5 RE-EXAMINATION: MR HAMPTON

Q. Just one point. You've been asked about conflicts of interest, Mr Whyte. In Queensland coal mines, underground coal mines in Queensland owned by public interest/private interest?

A. Both. We have public interest mines and –

10 Q. Privately-owned mines?

A. Privately-owned mines and a couple of public-owned mines.

Q. And conflict of interest hasn't been an issue in Queensland?

A. No.

Q. New South Wales, what are the mines there? Privately-owned, publicly-
15 owned, or a mixture?

A. Mixture once again.

Q. Problem there?

A. No.

Q. Tasmania? You might not know?

20 A. Yeah, I'm not too – it's a bit south for me.

Q. Western Australia?

A. Not that I'm aware of.

Q. Kermadec Islands all right?

A. I can google it, yeah.

25 Q. All right, we'll stay with New South Wales Mr Whyte, thank you.

QUESTIONS FROM COMMISSIONER BELL:

Q. Mr Whyte, just one question. When the fire was being fought on the polyurethane, were you there when that was happening or?

30 A. No, we were just coming to the mine that morning. We'd arrived and the fire had been put out by the New Zealand Air Force.

Q. Do you know if they wore breathing apparatus when they were fighting that fire?

A. Yes.

QUESTIONS ARISING - NIL

WITNESS EXCUSED

1520

**THE COMMISSION ADDRESSES MR LATIMOUR – EARLY
ADJOURNMENT**

COMMISSION ADJOURNS: 3.20 PM

COMMISSION RESUMES: 3.37 PM

**MR LATIMOUR ADDRESSES THE COMMISSION – COAL SERVICES PTY
LTD**

MR LATIMOUR CALLS**SEAMUS JOSEPH DEVLIN (SWORN)**

Q. Your full name is Seamus Joseph Devlin?

A. It is.

5 Q. And you're the state manager for the New South Wales Mines Rescue Services of Coal Services?

A. That's right.

1543

10 Q. Now Mr Devlin, I understand you have a copy of the CSPL institutional report?

A. I have.

15 Q. Now working from that document, firstly would you turn to page 94. Ms Basher, if we could have that. And if Mr Devlin, you could simply please, using that summary outlined to the Commission, your relevant experience and qualifications?

20 A. Yes. I've got 36 years in coalmining, 34 years of which has been with the Mines Rescue Brigade in different roles. I was an underground coalminer for 18 years as an underground miner and as a statutory official. I've been in a staff position in Mines Rescue, both in New South Wales and Queensland for a period of 18 years, those being assistant superintendent in Queensland and I was stationed at Dysart, Blackwater and Collinsville. I was the deputy manager at the Hunt Valley Mines Rescue Station in the Singleton area.

THE COMMISSION ADDRESSES WITNESS**25 EXAMINATION CONTINUES: MR LATIMOUR**

30 A. Deputy manager at the Hunter Valley in the Singleton area. I was then manager of Newcastle Mines Rescue for about a nine-year period and I am currently the state operations manager for New South Wales Mines Rescue. In terms of qualifications I have a deputies and undermanager's certificate. I'm an associate fellow of the Risk Management Institute of Australia. I've got a diploma in

occupational health and safety and a diploma in training and assessment.

Q. And then in terms of experience, and we'll come to the detail, but if you could just go to the particular relevant experience, it's noted there?

5 A. Yeah, quite a long time ago I was a member of the Mines Rescue Brigade that responded to the Appin explosion in 1979 in New South Wales. I was a member of the Queensland Mines Rescue staff in Queensland at the time of the Moura explosion. I was called to Beaconsfield in Tasmania for the entrapment of personnel some time ago and Pike River in 2010. I've been involved in a couple of ACARP studies in recent years. One looking at the possibility of explosion proof vehicles. And I'm currently involved in a mine re-entry protocol for ACARP.

Q. ACARP being?

15 A. Sorry, the Australian Coal Association Research Projects.
1546

Q. Now, if you could now please turn to page 3 and just so that we now have some relevant information about your organisation, did you pick up the description from the heading number 5, Coal Services Pty Ltd, please?

20 A. Certainly. "Coal Services Pty Ltd has a leading role in New South Wales coalmining industry. It's jointly owned by the New South Wales Minerals Council and the mining and energy division of the CFMEU. It was formed on the 1st of January 2002, pursuant to the provisions of the Coal Industry Act 2001, to replace the joint coal board which operated as a statutory authority under joint Commonwealth and New South Wales legislation. A snapshot of the industry in New South Wales is we have 63 coal mines operating at the end of June 2010, 33 of these are open-cut mines, 19 longwalls and 11 other underground mines. Preliminary production statistics for New South Wales" –

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30 Q. Sorry you just moved to paragraph 5.4, yes, carry on.

A. “Production and employment statistics for New South Wales at the end of 2010, for all mines was 19,087. Of these 19,087 workers, 54% of the mine workers were at open-cut mines and 46% at underground mines.”

5 Q. And now in paragraph 5.5, could you just highlight the two particularly relevant aspects of your statutory functions?

A. Yep. “Under the coal industry Act New South Wales CSPL must provide the New South Wales coalmining industry with an occupational health service that delivers quality medical assessments, rehabilitation, risk and injury management, work environment monitoring, health and education material tailored to the needs of those working in the industry. We also provide a rescue service to the New South Wales Coal Industry that can quickly and effectively respond and assist in the control of emergencies at mines enabling the escape or rescue of persons from those emergencies and to ensure that the members of the brigade are adequately trained. I’ve described the two divisions of CSPL that were directly involved with the provision of assistance to New Zealand Mines Rescue in relation to the Pike River Mine tragedy. Mines Rescue services are provided by Mines Rescue Proprietary Ltd, who is wholly owned by CSPL. Mines Rescue’s primary role is to provide underground instant response. Mines Rescue also plays a pivotal role in training to ensure the highest quality standards. Such training includes mines rescue training, response and emergency preparedness, confined space training, contractor induction and your refresher training. Mines Rescue Pty Ltd has recently undergone a massive upgrade to its facilities including state of the art virtual reality training theatres. We have four rescue stations placed in the coalfields around Australia, in New South Wales, those being Newcastle, Woolongong, Lithgow and Singleton. The other division that had an involvement was Coal Mines Technical Services and they are components of the regulation and compliance division of CSPL and this division oversees the coal industry statutory requirements as well as supplying commercial services to mining in general industry. – CMTS was established in 1983 to provide gas analysis and calibration services operating under ISO 9001. CMTS

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is accredited by the National Association of Testing Authorities in the fields of chemical testing and inspection.”

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Q. Skip 7.3. If you carry on at 7.4 please.

5 A. “Although initially servicing the coal industry, CMTS has expanded its operations and services to include rescue services, local government, water board, general industry and international markets. CMTS services include SmartGas micro gas chromatography systems for the analysis of coal mine atmospheres and provide specialist training for
10 gas analysis and control room operators.”

Q. It’s just looking at the second bullet point which you missed out. Can you also deal with that matter please?

A. “The NATA gas monitoring calibration, repair and services for the coalmining industry in Australia.”

15 Q. Could you move to 7.6 please?

A. Yes. “CMTS’ customer base includes clients throughout Australian coal mines, New South Wales government departments, and New Zealand, China, South Africa and the United States of America.”

Q. Just pause there Mr Devlin. Am I correct that one of CMTS’ customers
20 is indeed New Zealand Mines Rescue, is that correct?

A. That’s correct, we supply –

Q. CMTS provided the gas chromatograph which New Zealand Mines Rescue has at Rapahoe?

A. That’s correct.

25 Q. And it was not only sold and installed by CMTS but CMTS services it on a regular basis, is that right?

A. That’s correct.

Q. Now just, and I’ll turn to the essential factual involvement. If you just
turn to page 6, and I will just refer to the paragraph number 1 so that the
30 narrative is understandable in terms of the CSPL involvement. I understand Mr Paul Healey is the general manager of CSPL’s mine rescue division, is that right?

A. That’s right.

Q. There is yourself of course, and Mr David Connell who is also involved in providing assistance in relation to this matter, and is he the manager of the Hunter Valley Mines Rescue station in Singleton?

A. That's correct.

5 1553

Q. And then Mr Peter Mason, who is the manager of CSPLs coal mines technical services division, CMTS?

A. That's right.

10 Q. And my understanding is that initially he participated in giving advice and assistance from Australia, correct?

A. Yes.

Q. And then at a later stage he actually came over to relieve one of the other people who had previously been here?

A. That's correct.

15 Q. And he is, I think, the manager as we've said. Just very quickly finding some detail. This detail is actually in appendix 1, on page 106, I don't need Ms Basher to put it up, but Mr Mason, as the Commission pleases, is the manager of the technical services division you've heard described. He has over 40 years experience in the field of gas
20 detection, instrumentation and gas analysis by gas chromatography and he is also developed computer access and control chromatographic systems for the Mines Rescue Service, so he is one of the most senior men in terms of the gas analysis. So, now can we just now go to the essential summary and if you'll pick it up from the Friday the
25 19th of November?

WITNESS REFERRED TO ESSENTIAL SUMMARY DATED 19 NOVEMBER

30 A. "CSPL became aware of the incident at Pike River Mine within an hour of the initial explosion occurring. Mark Harris contacted myself to inform me that a mine explosion had been reported by the media of New Zealand. I subsequently contacted Trevor Watts on the instruction of Paul Healey to confirm the incident and offer any assistance required from CSPL. Trevor confirmed that there had been an explosion at the Pike River Mine. Later that day, inline with urgently obtained board

approval, CSPL made arrangements for myself and David Connel to travel to New Zealand on the first available flight to give assistance to New Zealand Mines Rescue in the operation. We arrived at 9.05 the next day.”

5 Q. Page 7?

A. “At 9.00 am, CSPL assembled and briefed rescue teams for departure to New Zealand as soon as possible by special charter flight if necessary. However, due to uncertainty about the mine environment, the New Zealand Mines Rescue office in Greymouth advised that the
10 rescue operations would not be immediate. CPSL understood that an emergency charter flight was therefore not needed for the rescue teams and normal commercial flights were arranged for that afternoon. Peter Mason organised for Robert Strang from CMTS to travel to the site along with the eight Mines Rescue members late in the afternoon.
15 Robert Strang was sent to assist in the operation of the gas chromatograph at Rapahoe. At approximately 7.00 pm Tania Constable from the New Zealand Department of Resources, Energy and Tourism phoned Paul Healey to enquire whether myself or David Connell had ventilation engineering qualifications. Neither of us did and Paul
20 contacted another person, Robert Bull, and directed him to be on standby to come to New Zealand. At approximately 8.00 pm, myself and David Connell arrived at Pike River. We were briefed on the situation and then attended an incident management team at midnight.”

Q. Just pause there. What was your impression of that first meeting you
25 attended please?

A. I was surprised that I walked into the meeting unannounced, uninvited. I was quite surprised at the number of people in the room. It’s probably not what I’m used to or the manner in which it would be operating in New South Wales.

30 1558

Q. Could we please, Ms Basher, have page 43 up on the screen? This is actually page 8, if the Commission pleases, of the emergency preparedness in Mines Rescue Guidelines 2010 addition. That is the

CSPL guidelines. And just in terms of what you are used to and expect in terms of incident management team, you see there the Emergency Response Guidelines and then the second box. Emergency Response Guidelines provide a framework for incident management teams to manage an emergency situation and provide MRS officers with direction et cetera. Can you please just take us through, for the record, the right-hand box please? Just read it through.

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- 30
- A. "In an emergency situation the senior mine officials should establish an incident management team to manage and control the response and intervention. It is likely that the IMT will comprise representatives of mine management, the appropriate inspector for mines, industry check inspector and Mines Rescue regional manager. Responsibilities are generally defined as the mine operator or delegate as per the management system has statutory responsibility for the management and control of the emergency. The inspector of mines has the authority to suspend or limit the intervention where the inspector deems that persons are being exposed to unacceptable levels of risk. The industry check inspector can also suspend or limit the operation where the inspector deems that persons are being exposed to unacceptable levels of risk. The Mines Rescue regional manager or his delegate can provide specialist knowledge and expertise on rescue control, exploration recovery, restoration techniques, and in particular deployment of the Mines Rescue Brigade. As the Mines Rescue boards representative, the Mines Rescue manager maintains full responsibility for the detailed operation of the Mines Rescue Brigade and should ensure that when the mine operator require them to be utilised the brigade is deployed in accordance with the guidelines and sound rescue practice. Mines Rescue manager should also veto deployment of the Mines Rescue Brigade where he deems that persons are being exposed to unacceptable levels of risk or where the techniques and procedures proposed are not in accordance with these guidelines and sound rescue practice. In the event of an incident involving the loss of life or lives the police officers act as the Coroner's representative and have their own

statutory responsibilities for investigation, interviewing, reporting and removal of bodies. The local emergency management officer, usually the regional police commander, can also access and resource ancillary equipment from outside the mining industry.”

5 Q. Can you just go back to page 7.

A. Continue?

Q. Pick up in penultimate paragraph on the Saturday box the sentence starting at, “This meeting?”

A. Yes. “At this meeting I inquired about the sealing of the mine. The
10 senior police officer made it clear that the sealing of the mine would not be supported by the New Zealand Police until survivability of personnel was confirmed as zero. After the meeting I viewed video footage of the initial explosion. This showed a considerable degree of force and blast pressure that lasted for about one minute. Sunday the 21st of the 11th.
15 David Connell and myself, along with other Mines Rescue experts at the site, including Trevor Watts, met and agreed that further gas sampling was needed before any decisions were made to send a rescue team into the mine. As a result I sent gas data Peter Mason to review and provide brief comment on the mine’s current atmospheric conditions.”

20 Q. Just skip the next paragraph.

A. “Following discussions with CSPL Mines Rescue staff Paul Healey learned that Peter Cornford from CSPLs Mines Rescue team was present in New Zealand and was a qualified ventilation engineer. Accordingly Paul advised Tania Constable in relation to her enquiry
25 previous day that Peter would be available if required.”

1603

Q. Just now turning to Monday the 22nd, if you please skip the first paragraph just deal with the next paragraph.

A. “Later that day I met with Trevor Watts at the Mines Rescue station and
30 both agreed that there was still not enough information to consider activation of personnel. Trevor Watts also requested of me that I source some additional equipment from Australia. I therefore contacted Paul Healey and requested that an additional three teams, or

18 brigadesmen and equipment be sent to the site to assist in the recovery. Paul Healey travelled to Sydney to brief the three teams before their departure. He informed the teams that CSPL Mines Rescue guidelines would form the basis of their decision making.”

5 Q. All right, now if you go to Tuesday the 23rd and I think we can skip the first two paragraphs please, which deal with you briefing the Mines Rescue teams that come over, and pick up the third paragraph, please?

A. “At approximately 4.00 pm, myself, along with Trevor Watts and David
10 Connell and Steven Bell attended a meeting with the New Zealand Police Officers. New Zealand Police asked those present whether they would prepare a document indicating that the miners were deceased. Notwithstanding that I believe the miners were deceased, I was not prepared to do this and explained that this was outside the scope of the supporting role of CSPL Mines Rescue team. I further indicated this
15 was not my area of expertise and that the question of survivability needed to be determined by a forensic scientist and an explosion expert.”

Q. All right, now if we go to Wednesday the 24th please?

A. “The borehole was finally established early in the morning. The first
20 atmospheric sample was analysed and showed 13% oxygen and low methane. I reminded those present that this sample would not be indicative of the atmosphere due to the drilling operation and insufficient time for the atmosphere to stabilise after the borehole had entered the underground workings. I later met with Steve Ellis the mine manager,
25 Trevor Watts and Ken Singer. There had been some suggestion that it would be okay to enter the mine. I confirmed that New South Wales Mines Rescue criteria for no-go, was if there was any sign of combustion underground. Paul Healey in Australia directed that CSPL rescue teams would not go active unless they were satisfied that the
30 atmospheric conditions were known and within acceptable limits of the CSPL guidelines.”

Q. Now, just pause there. Can we please have, Ms Basher, page 47, and these are the guidelines, and can I ask you, Mr Devlin, to refer to

6.8 which as the foot of the page and can I just ask you to read, Roman one and two of the middle box please?

5 A. "Rescue from flammable atmospheres is prohibited as is the conduct of rescue operations in a mine where the presence of a flammable atmosphere and an active ignition source is likely. Rescue operations may be conducted in a mine that contains a flammable atmosphere in another location provided there is no likelihood of an active ignition source. These may include the isolation of power, anti-static and non-sparking clothing, tools and equipment."

10 Q. And Roman two, please?

A. "The explosability of the mine atmosphere should be continuously monitored to ascertain the atmospheric conditions are trends, and trends are known."

Q. Just go back to page 9 and if you pick up the third paragraph there?

15 A. "Peter Mason was consulted about the test results and was concerned with the CO₂ make, the rate of production of CO₂, and suggested that extra time was required to be certain that combustion has ceased. The mine suffered a second explosion at approximately 2.30 pm. Following this explosion I advised Paul Healey that recovery would be some time off due to the current state of the mine, and he recommended that CSPL teams be returned to Australia as soon as convenient."

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1608

Q. Then on the Thursday?

25 A. Thursday, the 25th of the 11th. "CSPL decided subject to advice from the New Zealand planning meeting, that all other Mines Rescue teams were to return to Australia and be replaced by a team of permanent Mines Rescue Service personnel to assist with planning. Robert Strang from CMTS was to remain and to continue conducting the gas analysis on behalf of CSPL. At 11.00 am a review meeting was held at the mine site. I was asked to lead a group to identify and review inertisation options. The group decided that the use of the GAG unit was the only viable inertisation option at the time. CSPL personnel were all of the view that the mine should be sealed as a matter of priority."

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- Q. So then on the Friday we see that Mr Healey came to Christchurch and then onto Greymouth to take over from you and David Connell at the Mines Rescue station, and then on that Friday at 3.40 pm the mine exploded again. Just turn to page 10 now and we see on Saturday the 27th that Mr Healey was given orientation and handover by you and David Connell, correct?
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- A. That's right.
- Q. And then if you just pick up please the continued involvement at the paragraph saying, "Three incident management meetings...?"
- 10 A. Okay. "Three incident management meetings were held throughout the day at 10.00 am, 1.00 pm and 3.00 pm. Paul Healey attended these as an observer. The 3.00 pm meeting was informed that the plan was to inert and then to seal the mine. The task of sealing the top of the shaft was allocated to New Zealand Mines Rescue. Paul Healey attended a further meeting with Trevor Watts and Troy Stewart of New Zealand Mines Rescue and Mark Harrison from the Greymouth police to discuss the next phase of entering recovery."
- 15
- Q. Just pause there. No need to read the next few sentences. If you then go down to the Sunday, the 28th please?
- 20 A. "Paul Healey attended the New Zealand Mines Rescue station and an incident management meeting at 11.00 am. Expert opinion was that as methane was exiting from the portal, it was probable that the mine environment was gas rich and the fire was out. Paul Healey pointed out that the next air flow reversal would bring fresh back over the fire site and may reignite. At around 1.40 pm another explosion occurred. Paul Healey viewed video footage of the violent explosion at the top of the shaft and advised of the need to seal the mine as quickly as possible. He attended the post explosion review meeting at 2.30 pm, and the priority was to control the fire and continue with the GAG, seal boreholes and prepare shaft sealing arrangements. It was determined that an extended operation of the GAG (at least three days) was required before sealing the mine to ensure that it was safe to approach.
- 25
- 30

Due to the unsafe mining environment, gas sampling was suspended overnight.”

Q. Could you deal with Monday please, Monday the 29th?

5 A. 29th of the 11th. “Paul Healey attended a meeting with Steve Ellis, the mine manager, and expressed the view that recovery would be unlikely due to the extensive damage. He also advised of the need to get the GAG unit going as soon as possible so that the mine could be subsequently sealed. Shaft seal arrangements were then discussed with New Zealand Mines Rescue and the GAG unit team.”

10 1613

Q. If you turn to page 11 and we've already heard about the fire. Don't worry about the first paragraph of Tuesday the 30th, and if you just pick up the second paragraph on Tuesday the 30th please?

15 A. “Paul Healey attended a further meeting at Greymouth Police Station with Mark Harrison from the New Zealand Police, Trevor Watts, Dave Stewart, who was a New Zealand Mines Rescue Trust member and Glenville Stiles, also from New Zealand Mines Rescue. Trevor Watts stated that the opportunity to recover the bodies was lost. That the explosion and subsequent raging fire would've caused structural damage to the mine openings leading to major collapse and that ventilation was indicating a major blockage in the drift. Dave Stewart supported these conclusions and stated that the mine would have to be plugged. Paul Healey supported these views. Later

20 that evening Paul Healey flew back to Sydney.”

25 Q. Thank you, if you just pause there, we can see, and I don't need you to read this out but on the Wednesday the 1st, the GAG unit commenced operation and Thursday the 2nd, Peter Mason now came to Greymouth to relieve Robert Strang from analysing gas samples reviewing data and then through, for the period from the 2nd of December to the 7th,

30 Peter Mason's involvement was with the analysing the gas samples. And then on Tuesday the 7th, Peter Mason reviewed the operation of the gas chromatograph system with Glen Campbell, from New Zealand Mines Rescue to ensure he was competent with operating and

analysing future samples. And then that morning Peter Mason returned to Australia, correct?

A. That's correct.

5 Q. Now, can we go please to page 86? Mr Devlin, I'm taking you straight to the part of your evidence statement where you have dealt with as such of the Phase Two issues as you felt able to. So, can you identify the issue and read your evidence please?

10 A. "The issue is search and rescue. In light of my expertise and experience and my involvement at the Pike River incident as outlined above, I deal further with some of the issues. The cause of loss of life and the issue is the likely injuries suffered by the men. The likely injuries suffered by the men were most likely impact injuries from debris, burn injuries from the explosion and the shockwave produced by the explosion. 2.2 The causes of the deaths of the men. In my opinion the likely cause of the death of the men were either blast injuries or asphyxiation. 2.3 The likely timing of their deaths. In my opinion is almost certain that death occurred, if not immediately then within the first hour of the explosion on the 19th of November. My experience at other mine disasters is that the initial shockwave or related gases would have led to rapid extinction of life. Therefore, if the explosion did not result in an instantaneous death, which is probably did, then the contaminated atmosphere and lack of oxygen would not have sustained life. That was my initial expression, I expressed this view to Trevor Watts of New Zealand Mines Rescue. Nothing that occurred

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subsequently has altered my opinion."

Q. Now, the next topic, page 87, which is the issue of the opportunity if any for the men to have taken steps towards self-rescue and you're dealing with the equipment and resources available to the men, if you could deal with paras 47 on please?

30 A. "The equipment and resources available to manage the issue. My understanding is that the underground personnel wore a belt-worn, self-contained self-rescuer. Further there were strategically placed caches of self-rescuers in the mine. If the men had survived the initial

explosion, this system would've allowed the men to exit the mine unless there were other factors, such as a cave-in or other such obstacles. I don't know whether the Pike River Mine has a tactile directional escape system incorporated in the mine. The presence of such a system would theoretically enhance the prospect of self-rescue if there was low visibility or if a miner was disorientated."

1618

Q. And 2.8 please?

A. "The issue is the extent of the information available to the company and the external entities involved in the search, rescue and recovery operation in the period following the first explosion, including information as to the atmosphere, the location of the men, their work activities in the mine in and around the time of the first explosion. In terms of the atmosphere, my understanding is there was no atmospheric monitoring prior to the event that gave any indication of adverse underground atmospheric conditions. All existing underground and surface base monitoring ceased to report after the first explosion. Post-event monitoring was wholly dependent on systems and processes initiated and installed after the event."

20 Q. Page 88 please.

A. "The comment post an event, it is critical that information regarding the underground atmosphere is readily available. Current underground monitoring systems are not designed to survive an explosion or similar event. It is essential that consideration be given to the survivability of monitoring and communication systems that are installed in underground operations in the future. Consideration also should be given to backup or alternate monitoring and communication arrangements in the event of failure of the main system. This could be pre-bought communication and gas monitoring boreholes to strategic locations. Issue is, location of the men and the work activities. A tagging system whereby personnel fix a tag to a surface-mounted board was in use to indicate all persons entering underground. Location of persons whilst underground is essentially by initial job or site allocation.

This is always challenged by the mobility of personnel once underground, dependent on change of job site or priority. Electronic personnel locators are being considered and implemented in some operations but are very much not commonplace.”

5 Q. Now just with the next issue, this is really a narrower answer to the division of roles so far as CSPL was concerned. So without reading all of the bold type which are the broader issues can you just read paragraph 53 regarding the division of roles between Coal Services and New Zealand Mines Rescue please?

10 A. “The division of roles and the various operations conducted at the mine were appropriate. The CSPL did not have a leading role in the operations but maintained a supporting and advisory role for New Zealand Mines Rescue. In my opinion this approach is the correct division of responsibilities under these circumstances.”

15 Q. Issue 2.12 please.

A. 2.12. “The issue is the decision is reached on whether these were made in a clear and timely manner. In my opinion the decision not to send personnel underground in a search and rescue operation was correct in light of the lack of information available regarding atmospheric conditions underground. The mine itself is a source of fuel in term of explosive gases, coal dust and coal. It was self-evident that a source of ignition was underground at the time of the explosion and that subsequent source of ignition was likely to have been created from the first ignition. A dilemma always exists in the post-explosion decision-making. Prompt sealing or total inertisation of the mine would most likely have prevented further explosions. This action would also exclude the possibility of survival of anyone underground. Determination of the survivability of affected personnel has a major affect on the intervention options that can be used. However, delays to the application of available intervention techniques could reduce any possibility of future recovery of the underground area, or the mine, due to damage caused by any subsequent explosions. This dilemma is not easily managed due to the emotional impact on the victims’ families

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preceding with intervention techniques which are necessarily inconsistent with any future prospect of survival and rescue of victims.”

1623

Q. Now, issue 2.16 please?

- 5 A. The issue is the extent, if any, to which the search and rescue and recovery operations were impacted by the geography of the mine and its environment. Topography of the area made access and installation difficult in terms of gas collection, analysis and determination and implementation of intervention techniques. Weather systems could also
- 10 have a negative effect on access to the gas sampling points as cloud cover prevented the operation of helicopters. (b) Design of the mine. The mine was essentially reduced to a single entry after the explosion. This would have challenged the entry of rescue teams in terms of accessing the 2.3 kilometre drift. The mine had two entries to the
- 15 working area. One was a ladderway via the shaft. Entry and exit would be difficult in normal conditions. After the initial explosion this entry was not available due to atmospheric conditions and equipment damage. Extrication of injured or disorientated workers via the ladderway would at best be extremely difficult or probably impossible. Access via the
- 20 ladderway by rescue workers in breathing apparatus would also be extremely difficult. The other entry was a 2.3 kilometre stone drift. After the shaft ladderway became inaccessible, the drift in effect became a single entry roadway. Any rescue effort on foot would have to allow travel time for the 4.6 kilometres, ie in and out, of approximately 1.5
- 25 hours before undertaking any search and rescue efforts in the main workings. This time would be increased greatly if injured team members or survivors needed assistance and could place rescue teams in jeopardy if the conditions in the mine changed suddenly. Initial exploration would be on foot to establish various safety criteria. Once
- 30 found to be safe or made to be safe, subsequent missions may have been able to use vehicles. The drift could also be likened to a gun barrel as any overpressure resulting from an explosion would travel down this path. Rescue workers in this roadway would be exposed to

considerable risk for an extended period of time if required to travel on foot. Time would be required to determine safe working conditions and the establishment of a fresh air base closer to the main workings to reduce travel time through the drift. It is preferable to have two or more entries to the working areas. Distances should be kept as short as
 5 feasibly possible to reduce the time needed to enter and exit the mine and mechanically assisted man-riders are preferred in shaft exits in all but very shallow operations. Longer term access to the single entry drift will be a long and arduous operation that will require the re-
 10 establishment of a ventilation system.”

Q. Just finally then please (d)?

A. “(d) Information and equipment provided by the company. The information flow and decision-making process was different to what I have experienced due to an increased external involvement. This
 15 involvement, which was effectively, off site decision-making, delayed and impaired the speed of decisions. Pike River Coal Limited arranged for the supply of any requested equipment.”

Q. You don't need to read out 2.18, and I think you've set out there briefly your summary of the experiences you had personally in terms of the
 20 Appin Mine in 1979 and over on page 92, the Moura Mine in Queensland?

A. That's correct.

1628

**THE COMMISSION ADDRESSES COUNSEL – APPLICATIONS FOR
 25 LEAVE TO CROSS-EXAMINE – ALL GRANTED**

CROSS-EXAMINATION: MR WILDING

Q. Mr Devlin, you've referred to the Appin Mine Disaster, and I understand that rescue teams did enter in that case within a few hours?

A. That's correct.

30 Q. Was there gas monitoring back then at that particular mine?

A. It was 32 years ago, so the sophistication of the systems was probably a lot less than it is now, so, no, other than handheld detectors.

Q. And if that happened nowadays, that team wouldn't be able to enter until the gas monitoring confirmed that entry was safe?

A. That's correct.

5 Q. Could I just turn to the way in which coal mine emergencies are conducted in New South Wales and perhaps you might be able to tell us who the incident controller would be?

A. The overall incident controller would be the mining inspectorate in New South Wales.

Q. And in particular, a mines inspector?

10 A. The particular mines inspector allocated to that mine at the time.

Q. And would that mines inspector have training in the conduct of coal mine emergencies?

15 A. Yes, every coal mines inspector in New South Wales has to have a first class ticket of competency and part of attaining a first class certificate of competency is to pass examinations in emergency preparedness and emergency management.

Q. And do you know if they have ongoing training in relation to the conduct of emergencies?

20 A. Yes, they regularly get involved with simulated emergencies conducted at mine sites within their area and they have recently in the past 12 or 18 months started conducting their own simulated emergency exercises for their inspectorate.

Q. Would that coal mine inspector have any knowledge relevant to the particular coal mine?

25 A. Yes. Typically they're assigned to a district with, if I speak of the northern region, probably 10 underground mines. They'd be allocated to about three or four of those in that district and be fairly well intimately involved and knowledgeable about the mines.

30 Q. Do you think it's at all important for the person controlling the incident to have knowledge of the particular mine in advance of the emergency?

A. I think it's very beneficial for the person to have a knowledge of the mine he's involved with, yes.

Q. Why do you say that?

A. It saves a lot of explaining and directing and instructing in case of the event.

Q. You've touched on IMT meetings, can you summarise what the purpose of those is in New South Wales?

5 A. The incident management meeting as I detailed before, would be made up of the people that I spoke about before and the incident management team is there to assess what's occurred, develop strategies to control what's occurred, delegate those strategies potentially out to other people to risk assess and bring back to the incident management team and then get them approved by the incident controller and implement them.

10 Q. Does the incident management team have any role in the making of decisions?

A. Does the incident management team? Yes, they would develop the strategies subject to approval by the incident controller.

15 1633

Q. The incident controller as a part of the incident management team?

A. Can be and very likely is yes.

20 Q. And in situations where those meetings occur and where the incident controller is present, can decisions be made on the spot?

A. The incident controller being the local inspector appointed to the that mine can and would make decisions on the spot if he had any need to go to a higher authority, I'm sure he would. That authority being a more senior inspector or the chief inspector.

25 Q. You've heard evidence over the past few days about the elevation of two decisions, the sealing of the mine or the authorisation of Mines Rescue to enter the mine to a level higher than the incident controller. Does that happen in New South Wales?

30 A. By virtue of his power it doesn't have to happen, but I would be very surprised that if critical decisions like that weren't moved up to the chief inspector, that the chief inspector would take care of that approval.

- Q. So you've got a coal inspector who's part of the emergency management team meeting who will then communicate with the chief inspector in relation to certain high-level decisions?
- A. If he needed to yes.
- 5 Q. How does that communication occur?
- A. In my experience he would step out of the room and ring the chief inspector directly and come back into the room within 10 minutes, 10 or 15 minutes.
- Q. And being in a position to make or confirm a decision?
- 10 A. That's correct.
- Q. Would that chief inspector have been involved at earlier stages in the emergency?
- A. Not necessarily.
- Q. Does the chief inspector have to confirm his or her view in writing or is it just sufficient for that communication to be by telephone?
- 15 A. No, as I said, the inspector onsite, assigned to that mine, has the authority to do it. He would be just making a confirmation with him verbally and it would be on his signature.
- Q. Just turning to Pike River incident management team meetings, you first attended one at about 10.00 pm on the 20th, is that correct?
- 20 A. That is correct.
- Q. How many did you attend?
- A. I would say about three or four over the next few days.
- Q. You have read the witness statement of Mr Brady?
- 25 A. Yes I have.
- Q. And you've read the comments that he's made in section 8 of that statement about IMTs?
- A. Yes.
- Q. Do you agree or disagree with his comments?
- 30 A. Yeah, in the main I agree with them, yes.
- Q. Are there any in particular which you don't agree with?
- A. Not really, the structure that he outlines in Queensland is an excellent structure, the MEMS structure and it is adopted in some parts of

New South Wales but not mandatory. There's several ways to run an IMT but in essence I agree with what he's saying.

Q. Do you agree with the criticisms that he makes of how IMT meetings occurred in the Pike River emergency?

5 A. In particular what part if you don't mind me asking?

Q. Are there any parts that you don't agree with?

A. Are there any parts? Yeah, I think I was the same as Darren, I was quite surprised that the police were the lead agency, Pike River.

10 Q. You have referred, essentially, to not being introduced when you entered the IMT meeting, is that a particular problem?

15 A. It doesn't necessarily have to be a problem but I was surprised, I certainly wouldn't expect to walk into an IMT meeting in New South Wales without being challenged as to who I was or what I was doing there and typically you'd be asked to be part of the IMT not walk in.

Q. When you entered or during any of the other IMT meetings, were you made aware of the knowledge and experience of the other members?

20 A. No, and on the first meeting I knew personally obviously David Connell and Trevor and Doug White but I wasn't aware of the backgrounds or qualifications. I'm sure there was qualified people in there but there was a lot of people that obviously didn't have a mining knowledge.

1638

Q. Just two issues. First, do you think that it's important that the IMT members were aware of each other's expertise and backgrounds?

25 A. Very much so. I think you get the best use out of personnel if you know what their capabilities, background and knowledge are so that they can input into decision-making.

30 Q. And second, are you able to comment about whether or not the balance of people, and in particular their expertise at the IMT meetings, was in your view correct?

A. I don't believe the balance in the IMT meetings I attended was correct.

Q. In what respect?

- A. When a mining issue was raised, or a strategy was spoken about, people seemed to have to explain what we were talking about. So we were trying to explain to non-mining people what mining terms meant, which just slowed down the whole process.
- 5 Q. Aside from slowing down the process, did it have any impact on the effectiveness of the IMTs to identify strategies or contingencies?
- A. I believe so. As I stated before, I just made the comment in the first meeting that I went to that had sealing been considered, in my experience you look at all the contingencies and all the strategies, it doesn't mean that you want to implement the strategy, but I would've thought that contingency planning of all those strategies would've been done at the same time. So that in the event that you needed to (a) inertise or (b), (c) or whatever the strategy was, that the plan was already in place.
- 10
- 15 Q. Do I take it from that, when you asked whether sealing had been considered on the 20th that was raising it for the purpose of contingency planning?
- A. Absolutely.
- Q. Was there then discussion at that meeting of that as a contingency?
- 20 A. At the time I was told that sealing would not be considered until the survivability of the people was below zero.
- Q. But did that mean that there wasn't then discussion at that meeting of preparing the sealing as a contingency?
- A. That's right, that's correct.
- 25 Q. After the IMT meeting, as developed a plan or essentially reached a provisional decision, what happens next in New South Wales?
- A. It would be risk assessed either by the incident management team or by a group with the appropriate qualifications to correctly risk assess the scenario, then delivered back to the IMT and reviewed and signed off.
- 30 Q. Would that first risk assessment be reviewed before the matter goes back to the IMT?
- A. Would the first risk assessment be reviewed?
- Q. Mmm.

A. There's a review criteria in New South Wales where any risk assessment has got a, there's a guide to reviewing risk assessments if you will. A Mines Department Guide.

5 Q. So if I can just get the process right, the IMT comes up with a plan or provisional decision, correct?

A. Yes.

Q. Then there's a risk assessment?

A. Yes.

Q. Then there's a review of the risk assessment?

10 A. Yes.

Q. And then the matter goes back to the IMT?

A. Yeah.

Q. And is that for the purpose of the making of the final decision?

A. That's right.

15 Q. Right. If we just look at the development of the risk assessment, that would include presumably people with expertise in the relevant matter, the subject of that risk assessment?

A. That's right.

20 Q. Would that panel also include people with knowledge of underground coalmining?

A. Yes it would.

Q. Why?

25 A. Well if you're going to risk assess some actions you've also got to risk assess the impact of that action in a coalmining sense or what other risk can be raised by the use of whatever you're thinking of risk assessing.

1643

Q. You referred to risk assessment documentation. Ms Basher, are we able to have please, CAC00907?

WITNESS REFERRED TO CAC00907

30 Q. I just want to talk about the reviews of risk assessment and first, in your view, do those reviews have to be conducted onsite, off site or it doesn't matter?

A. Well, it doesn't matter so long as the review is done promptly and, yeah, it's not an issue as to where they're done, so long as they're done promptly and received back.

5 Q. Now, this is page 2 of a document, "Guide to reviewing a risk assessment of mine equipment and operations" and I think in paragraph 2 it –

THE COMMISSION ADDRESSES MR WILDING – NEW SOUTH WALES DOCUMENT JULY 1997

10 **CROSS-EXAMINATION CONTINUES: MR WILDING**

Q. New South Wales document, sir. July 1997 and that's the current guide used for risk assessment reviews?

A. That's correct.

15 Q. And section 2 deals with the essential features of a risk assessment and the second, or the first bullet point says, "Use of a team with appropriately varied and relevant experience for risk identification." This is the document in respect of the reviews of risk assessment. Looking at that first paragraph, in your view in a coal mine emergency, do you think that review panel ought to also include someone with underground coal mine experience?

20 A. I would think it's essential.

Q. And for what reason?

25 A. To ensure that the dangers or associated hazards with the application of any equipment is looked at in respect of its use or application in a coalmining environment.

30 Q. Ms Basher, if we could please go to the same document, but summation ending 9. 5.1 reads, "Perhaps the most important weakness is a mission of credible accident or incident scenarios, and a concentration on those scenarios which are most easily assessed. For this reason it is helpful if the reviewer attempts to postulate accident scenarios before reviewing those identified in the study and then checks whether they or similar scenarios were identified in the study." In an underground coal

mine emergency, do you think that that function can be properly performed by a panel which doesn't include someone with underground coal mine expertise?

A. No, I don't.

5 Q. If there are difficulties found by a review panel with a risk assessment, does that panel in New South Wales have the ability to raise those directly with the people who generated the original assessment?

A. I would expect that would be the process, yes.

Q. Do you know whether that is the process?

10 A. I can't think of any occasion when that wouldn't occur.

Q. And would the raising of those concerns in an emergency situation, be done verbally or in writing?

A. If we go back to, can they be done off site, that may have to be done. It certainly wouldn't be in writing. It would be either verbally or directly,
15 yeah.

Q. And would that be for reasons of time?

A. Yes.

1648

20 Q. In Mr Healey's witness statement at paragraph 92, he raises issues about the timeliness of certain matters including risk assessments. Did you have any experience where there was, in your view, delay with that process?

A. Again, the first meeting I attended, there was a decision made to drill an extra borehole to enhance the gas analysis and, I think the words were,
25 "To start at first light the next day," and sometime later on in the afternoon of the next day while I was at the mine site I bumped into the drillers in the carpark and they were waiting for the risk assessments to be completed which was sometime, quite a long way after daylight.

Q. How do you know they were waiting?

30 A. I spoke to them.

Q. They told you?

A. Yes they did.

Q. Are you able to give an indication of how long you might expect that risk assessment and review process to take in an underground coal mine emergency in New South Wales?

A. I wouldn't expect it to be more than a couple of hours.

5 Q. Have you had experience of that in relation to, for example, boreholes?

A. Yes I have. Yes, a couple of years ago now, we had a fairly extensive heating at a local colliery that involved quite a number of boreholes and moving the drilling machine to different boreholes and that was my experience was a couple of hours.

10 Q. New South Wales doesn't have a GAG, is that right?

A. No we don't. That's a Queensland based unit. Our inertisation technique is by, what we call a mine shield and it's quite a bit different.

Q. And if we just compare a GAG, a mine shield and a Floxal, they all put out nitrogen?

15 A. Well, the GAG unit relies mainly on exhaust gases which are basically water vapour, nitrogen, carbon dioxide.

Q. And the mine shield's capacity to put out nitrogen will fall somewhere between a Floxal and the GAG, is that right?

A. That's correct, yes.

20 Q. Have you been involved in any risk assessments in New South Wales in relation to the use of the mine shield?

A. Yes, we've had to position the mine shield, actually, on the one I spoke about before with the Newstead Colliery we had to drill holes. Nitrogen was pumped into that for probably a 12 month period. We've used it multiple times over the last few years and it's currently in operation as we speak.

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1651

Q. Are you able to say how long the risk assessment process for that took, including the review of that risk assessment process?

30 A. Again, I wouldn't expect more than a couple of hours for the installation of it.

Q. In New South Wales are mines set up so that that machine can be used?

A. In some cases it is. It's not mandatory as it is in Queensland to have a connection for it because the difficulty with that is you don't quite know exactly where you'll need it at any one time, but we generally use it in boreholes or pre-determined lines into the mine.

5 Q. So that would be a less complicated situation than that at Pike River with the use of the GAG?

A. The installation of it would be less complicated than at Pike River, yes.

Q. So the complexity at Pike River, would that increase the amount of time which might be involved in both developing the initial risk assessment and then reviewing it?

10

A. There's that possibility. I wasn't involved with the risk assessment with the GAG but I know from my experience with the Queensland Mines Rescue that they can set it up very promptly at any mine in Queensland.

Q. Just turning briefly to training exercises. I don't think you've got the equivalent of the level 1, 2, 3, 4 exercises that Queensland has?

15

A. No we haven't, no.

Q. Are you able just to describe what type and level of training exercises there are in New South Wales?

A. While they're not under legislation, which the Queensland exercise are, they're still run on a regular basis, at least once a year, probably more often, at each colliery, but the difference is we don't have the level 1 where the whole mine is shut down for the operation, but individual companies use our expertise and inter-agency expertise to run simulated emergencies on a regular basis.

20

25 Q. What agencies would you expect to be involved in those training exercises at a colliery?

A. It would depend on the complexity of the exercise plan, whether it's a short exercise or not, but we would typically notify the police and the ambulance association and other agencies, the inspectorate.

30

Q. Is the inspectorate ever involved in those training exercises?

A. Yes they are, yes, yes they'll respond to a simulated emergency and take part in an IMT.

THE COMMISSION ADDRESSES MR WILDING – TIMING

COMMISSION ADJOURNS: 4.55 PM

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