



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 CMNZ
Commissioner S L Bell
Commissioner for Mine Safety and Health, Queensland

Appearances: J Wilding, S Mount and K Beaton as Counsel Assisting
S Moore QC, K Anderson and K Lummis for the New Zealand
Police
K McDonald QC, C Mander, T Smith and A Boadita-Cormican
for the Department of Labour, Department of Conservation,
Ministry of Economic Development and Ministry for the
Environment
N Davidson QC, R Raymond and Ms Mills for the Families of
the Deceased
S Shortall, I Rosic and D McKenzie for certain managers,
directors and officers of Pike River Coal Ltd (in receivership)
C Stevens and A Holloway for Solid Energy New Zealand
N Hampton QC, R Anderson and A Little for Amalgamated
Engineering, Printing and Manufacturing Union Inc
G Galloway and J Forsey for Mines Rescue Service
G Nicholson and S Gilmour for McConnell Dowell Contractors
P Jagose for Valley Longwall International Pty Ltd
F Tregonning for Pike River Coal Limited (in receivership)

OPENING ADDRESS OF J WILDING FOR THE COMMISSION

MR WILDING:

May it please the Commissioners, ladies and gentlemen. An internet search for the phrase "Pike River Mine tragedy," produced over 439,000 hits, too many to mention. They included news articles, opinions, tributes and theories. I want to mention just one. It was headed simply, "In memory of Pike River Coal Mine Disaster." Below it was a brief description of the tragedy, followed by the names of the 29 men lost listed in alphabetical order from Conrad John Adams, aged 43, to Keith Thomas Valli, aged 62. There were then tributes left by people who visited the site. I won't read their names but I do want to read just a few excerpts, five, and the stated location of the writers.

"We will never forget these 29 beautiful men. Their memory will live forever in our hearts. My deepest sympathy to all of you," from a kiwi in USA. "I send my love and prayers to all of you from across the world. May they rest with the angels," from Tipperary, Ireland. "I would just like you all to know that we also shed a tear when the news came through of your loved ones' fate. Take comfort in knowing there are so many people worldwide also mourning with you," from Queensland, Australia. "Our hearts and minds are with you all, 29 brave men that will never be forgotten," from Tauranga, New Zealand. "We are a class of year 3 and 4 students at Westport North School. We wanted to write messages to the families at Pike River Mine. One of us wrote a song so we recorded it together. We hope it brings you strength," from Westport New Zealand.

As those tributes illustrate, the effects of this tragedy have been felt far and wide. Although the men will not be the sole focus of this inquiry, they are the reason that we are here. Tragedies like this are often the reason why

inquiries like this take place. One might ask why it so often takes a tragedy to make us look properly at whether things have been done right.

Commissioners, you have been charged with finding out what happened at Pike River, why, and what can be done to stop it happening again. The answers to those questions are wanted by many. The family, friends and workmates of the miners, the Government, the mining industry, many people in New Zealand and some overseas.

Your enquiry will cover a wide range of matters from the regulatory framework and oversight through to practices at the mine. It occurs in a context of coal mining disasters in New Zealand. In 160 years of coal mining there have been many deaths, nine Commissions or Royal Commissions of Inquiry and many regulatory changes. More recently during the time of the Coal Mines Act 1979 and then the Health and Safety and Employment Act 1992, coal mining related deaths have occurred with concerning frequency. The causes have included electrocution, roof collapses, vehicle accidents and, as in this case, explosions. They have occurred in mines both small and large, open cast and underground and both private and state owned. In short the evidence shows that the dangers of coal mining and underground coal mining in particular, are far from historical.

Nor are they confined solely to New Zealand or to coal mining, as has been shown by just a few of the high profile tragedies in recent times. The explosion at Upper Big Branch West Virginia in 2010, the Chilean Mine Disaster in 2010 and the Beaconsfield Gold Mine disaster in 2006. They occur in an environment that is described by some as high risk, high consequence. In essence there are a lot of things that can go wrong and when they do they are serious. Another description is low frequency, high consequence, meaning it doesn't go wrong often but when it does it's bad.

One of the issues for you is whether New Zealand's and Pike River Coal's health and safety and rescue systems properly catered for those risks and consequences.

There are five topics that I want to talk about today. The first, the nature of the inquiry, secondly, how the Commission operates including its people and approach. Thirdly, the evidence that has been sought and received so far. Fourth, the way you've structured the hearings and finally, I want to briefly outline the structure of the phase one hearing upon which you are about to embark. Along the way I shall try and answer some of the questions that people have asked about the inquiry.

I shall turn first to the nature of the inquiry. This is not a criminal investigation, nor is it directed at establishing civil liability. That does not mean that your scrutiny will not be close. As you noted in opening the hearing process on 5 April this year, inquiries such as this have the potential to occasion serious harm to the reputation of those whose actions are under scrutiny. Because of that it is important that everyone reserves judgement until those the subject of serious allegations have had a proper opportunity to be heard. That is especially so given the nature of the phases and the timeframes between them. As an example phase one involves evidence intended to be contextual but some of which is implicitly or expressly critical of others. However, the testing of those criticisms and the responses to them will not occur until a later phase.

I want to touch on the terms of reference. In one sense they are broad. Some inquiries look at a particular event, what happened and why. Others look at a particular law or policy, the ends it is designed to serve and whether it is right or wrong. Some inquiries focus on a particular entity or entities. Your inquiry does all of those. The matters you are required to inquire into include the practices used at the mine; what caused the explosions; the search, rescue and recovery operations; the requirements of the laws and practices that govern underground coal mining and health and safety in underground coal mining; how those interact with requirements that apply to the mine or the land on which it is situated including environmental and conservation requirements; the resourcing, administration and implementation

of those laws and practices; and, if the mine is not reopened, what should be done to make it safe.

In another sense though your terms of reference are narrow. First, your focus is required to be on underground coal mining, and a particular underground coal mine. While information relating to other forms of mining, other industries, and the regulation of other sectors may help to inform, you they are not the focus of your inquiry. Secondly, your terms of reference exclude from your consideration the wider social, economic and environmental issues and in particular the social consequences of the tragedy for Greymouth and the West Coast; the economic impact on Greymouth and the West Coast, of the tragedy and of coal mining or any other mining in related operations; and finally, the merits of coal mining or any other mining and related operations in New Zealand.

In fulfilling the terms of reference the lens that you use will be focused not solely on Pike River Coal but also on state agencies. The Department of Labour, the Ministry of Economic Development, the Department of Conservation and the Police, to name a few. Your focus will not be solely confined to New Zealand. The terms of reference require you to conduct an international comparison of mining, environmental and health and safety law and practices. You are tentatively proposing to consider the law in Australia, the United Kingdom, parts of the United States of America, South Africa and Canada. I say tentatively, because you have indicated a willingness to receive suggestions regarding other countries whose laws might be of assistance. Countries may be added to or removed from that list. I hasten to add that the documents received by the Commission thus far include reference to laws and practices of many other countries, as well as the international community and the European Union. Exposure to those may help shape your thinking.

It will be apparent from what I have outlined that the task that you have ahead of you is substantial. That leads to the second topic that I wish to talk about, being how the Commission operates, including its people and approach. You

are the finder of fact and the body that makes recommendations. Those responsibilities are yours alone and in that regard you stand apart from, and are independent of, Government.

To assist you you have gathered a team of 13, including three analysts, one of whom is also an investigator, counsel assisting and support staff. I want to talk briefly about their roles. The analysts play an important role in helping analyse the voluminous evidence, extracting relevant material and identifying evidential gaps. As an example, to assist you and the public's understanding of the timing and sequence of events, they have been involved in the preparation of a series of chronologies, to which I will refer later.

The Commission's investigator, who also plays an analytical role, is Mr Stokes, a former Detective Superintendent of Police. That reference to an investigator should serve to emphasise that the Commission's approach to gathering evidence is not passive. It has sought out information of relevance and will continue to do so. I shall return to that later.

As for the role of counsel assisting, in opening this process on 5 April this year you described it as being to represent the public interest and to facilitate the work of the Commission. We will endeavour to do those. There are three of us and we are co-counsel. No significance attaches to who does what.

You have also secured international experts to give such advice as may be necessary in relation to the regulatory regimes, mining and search and rescue.

I note the important part played by the Commission's Executive Director and support staff. They are vital to the proper functioning of this Commission and they are no less important for their roles not being mentioned individually.

Before leaving this topic it is important to reflect that despite the assistance the Commission team may give you, it falls upon you to read, evaluate and weigh the evidence before you. Counsel assisting are conscious of the fact

that you have been doing that for several months. That probably allows me to answer one of the questions that has been asked, being whether the Commission has already started its work. The short answer is, "Yes." It has worked for a number of months, interrupted only by having to relocate from Christchurch to Wellington as a result of the tragic earthquake of 22 February this year.

It is implicit in those comments that these public hearings represent an important part, but only a part, of the Commission's enquiry process. They provide an opportunity to clarify matters that might not be apparent from the written material or to gain more evidence about a particular topic. They allow evidence to be aired and tested in a public manner. I will talk again later about the conduct of the hearings.

I want to turn now to the approach taken to gathering evidence outside of these public hearings and the response to that so far. Evidence is received in four ways:

1. First from people who have volunteered it. The voluntary provision of information has resulted from a public invitation notified in New Zealand and overseas for anyone who has relevant evidence to file it.
2. The second way is from people from whom we have made requests.
3. The third way is from those from whom material has been compelled.
4. The fourth way, alluded to earlier, is from those with whom Mr Stokes speaks. He has already interviewed many potential witnesses and investigated several issues. Where his enquiries result in relevant and reliable evidence that should properly be put before you, then we will endeavour to ensure that that happens.

There is another aspect of Mr Stokes' role upon which I shall touch. People do not need to be legally represented in order to give evidence before the Commission. Nor do they need to be represented when appearing before it. Mr Stokes is available to assist those without representation. In appropriate cases counsel assisting can lead their evidence. An example of that will occur this week in the case of Dr J Newman.

We are grateful for the co-operative approach that has been taken by people supplying evidence. They include the families, miners, academics, geologists, health and safety experts, regulatory agencies, Pike River Coal and certain of its officers, directors and management. I shall outline some of the evidence later.

That co-operation has extended to offshore. For those overseas witnesses from whom the Commission wishes to hear and who cannot readily return to New Zealand, evidence may be given by video link.

Those providing evidence thus far have tried to avoid you being hindered by issues such as confidentiality and privilege; they have generally done so by gathering waivers. We are aware that a number of participants have gone to some lengths to obtain waivers from various people and organisations to enable the provision of documents that might otherwise not have been provided, or at least might not have been provided without some restrictions. Some have not claimed confidences and privileges where they might.

Compulsion has been used on several occasions, sometimes to avoid the difficulty of the participant not being able to provide a document that is confidential. Even where compulsion has been used, those the subject of compulsion have co-operated to ensure that relevant material is provided in a meaningful and effective manner.

This is perhaps an opportune time to discuss another couple of questions that have been asked, being whether the Commission will have access to relevant documents held by the Police and Department of Labour and what would be the impact on the Commission if either or both decide to lay charges.

As to the first, both the Police and Department of Labour have advised that they have many documents of relevance to the enquiry. The Commission has already received many from the Department of Labour and other regulatory agencies for the purpose of phase one. Last week the Department provided a

copy of an external review dated 4 July 2011 of its performance in relation to health and safety and underground coal mining and Pike River Coal. The Commissioner is making that available to participants in the same way as it has with much other evidence. Time will be needed to consider it.

The Police have already provided a significant volume of material for the purpose of phase two. In brief it seems clear that both the Police and Department of Labour, together with other regulatory agencies, intend to facilitate the provision of relevant material to you. They are undertaking substantial work directed towards that end. We anticipate they will continue to do so.

As to the second question, what happens if charges are laid, the short answer is that we will work with the Police, the Department of Labour and other regulatory agencies to endeavour to find ways of relevant material being put before you in a timely manner. Suffice to say it is a matter to which much thought has been given and one that we know you considered when deciding on the phasing of the hearings and their sequence.

An associated question is what happens if someone exercises a right to silence? Under the Commissions of Inquiries Act 1908 people do not have an absolute right to silence. They can be compelled to give evidence, and can decline to do so only in limited circumstances. If anyone declines to give evidence the first issue is whether there is a valid ground for them doing so. Even if there is, that does not mean that the inquiry is thwarted. The information that you will need to conduct your inquiry is held by many. Many companies were involved in giving advice about, and developing, the mine. Many people worked at the mine. As indicated earlier, the Police and Department of Labour gathered much information relating to the mine.

In short, the number of sources of relevant information and the significant amount of information already gathered by the Commission, Government agencies and participants, means that any lack of co-operation by some individuals is unlikely to stall you.

That there are many sources of information has been illustrated starkly by the evidence filed for phase one. The issues that we have contended with have included not only how to obtain relevant information, but also how to ensure that we do not receive many copies of the same evidence, for example feasibility studies, ventilation shaft and construction reports, from the many sources who hold it. We are thankful that participants have co-operated to help ensure that we receive as few duplicates as possible.

The result of all of the different ways in which evidence has been gathered and the many sources of that, in the context of your powers under the Commissions of Inquiries Act 1908, will be to allow you to access detailed and relevant material in order for you to conduct your inquiry, some of which would not usually be available to other bodies.

Another question that has been asked is what evidence will be made available to the participants? Following an appropriate application, much of the evidence received by the Commission will be made available to participants in the inquiry. That serves several purposes. First, it allows them to better participate in the inquiry. Secondly, it allows them to assess whether there is evidence that might adversely affect them. If there is, they can apply to file evidence, cross-examine or make a submission in respect of that evidence. That has already been done by various participants for the purpose of this phase one hearing.

I said earlier that much of the evidence would be made available to the participants, to signal that some of it may not. Despite best endeavours, some of the evidence received will be confidential or privileged and there will be restrictions placed upon it. It is hoped that such occasions will be limited.

I now want to touch upon how the inquiries will be conducted. You are conducting an inquiry, not a Court hearing. You are able to develop processes to ensure that the inquiry proceeds in a fair, open and effective manner. Consideration of the evidence and issues thus far leads us to the

tentative view that while many issues are best dealt with by way of supplementary oral evidence and cross-examination, some will not require oral evidence. Others might be best dealt with by way of written submission and expert advice. As the inquiry progresses it will be necessary to identify the best method of dealing with the various issues in evidence.

Care will need to be taken in selecting who will give oral evidence. You have directed that cross-examination of witnesses will be by leave. The requirement for leave serves a number of purposes, including helping to ensure that, to the extent reasonably possible and subject to natural justice, there is not unnecessarily duplication of oral evidence or cross-examination. An example of the operation of your approach will occur in this phase one hearing, where leave has been sought by and granted to some participants to cross-examine on certain topics.

The third topic to which I wish to turn is that of what evidence has been sought and received so far. The short answer is that you have sought and received evidence that is relevant to the terms of reference. The list of issues of 28 April this year gives a good guide to relevance. A more detailed answer involves describing some of the types of evidence, for example, contextual documents that have been sought and then referring to some of the evidence received so far. I shall do so.

We have sought documents falling in various categories. They include for example, contextual documents, those relevant to the emergency response and financial documents.

Contextual documents sought include geology reports, hazard assessments, drilling records and micro seismic reports; mine plans that show tunnels, shafts, ventilation systems, methane drainage, electrical equipment, gas monitors, rescue and air stations and self rescue caches; plant and equipment, including records as to their use and maintenance; electrical certificates for that plant and equipment, risk assessment documentation, including risk management meetings, minutes, records of relevant decisions

and hazard management plans; health and safety documentation, including training material and documents showing health and safety systems and reviews; health and safety incident reports, including the near miss and high potential incidents; the details of those working at and in the mine at the time of the tragedy and their instructions; the details of the equipment operating in the mine; communication records including logs of and any video and audio recordings of communications to and from the mine; mine atmospheric data, including methane, oxygen and carbon monoxide data; electricity data including that showing usage and the times and dates of supply and non-supply.

Documents sought in relation to the emergency response include the standard emergency response and search and rescue policies of Pike River Coal and relevant third parties including associated protocols; details of training, testing and reviews of those policies and protocols; documents describing the emergency response and search and rescue including the decision making structures, plans, protocols, decisions and briefings; expert reports received for the purpose of the emergency response and search and rescue; details of the search and rescue plant and equipment available to Pike River Coal and relevant third parties including what it was, where it was, whose it was and its availability.

Documents sought in relation to the financial performance of Pike River Coal include coal resource estimates, production forecasts, productions summaries, details of capital raisings and its financial statements.

Thus far over 21,000 documents have been gathered. That number is increasing weekly. In addition to those documents, and others that are from time to time sought, will be the evidence that is filed for the purpose of each phase, supplemented by oral evidence in hearings such as this.

I want to turn to some of the evidence received so far, much of which will not be the subject of oral evidence at public hearings. That is for many reasons. At the outset of this process participants were asked to file an expression of

interest. When filing those many indicated that they did not seek to be heard orally. Instead they sought to make a submission or to file evidence and have that considered by the Commission. In other cases the submissions and evidence given by certain participants have not been challenged. In that circumstance the giving of oral evidence is not necessary except to the extent to which clarification of matters is required or where the person might have further evidence of relevance.

Some of the written evidence that we have received is so sufficient, clear and comprehensive that oral clarification and elaboration is not necessary. We are grateful for the evidence received so far and wish to make clear the fact that if a witness is not called to give evidence orally does not mean that that witness' written evidence is not important.

And of course it also does not mean that it will necessarily be accepted as being correct. Both the written and oral evidence will require scrutiny. That scrutiny may include an assessment of relevance. In an inquiry such as this it is possible that evidence received and evidential conflicts cover matters that fall outside the terms of reference. In such cases they may be put to one side. That said, all of the submissions that we have seen have been of assistance to us and we anticipate will be of assistance to the Commission.

I shall now outline some of the evidence received to give a flavour of its nature and range. I do so in no particular order. I do not intend to now refer to those who will give oral evidence during this phase. That will be done later. I cannot mention everybody due to time constraints and hope that offence is not taken at omission. Time constraints also mean that what is being provided is no more than an indication of some of the matters contained within any particular witness statement. I apologise for inevitable errors.

Turning to the evidence. Dr Richardson, an historian, has filed a submission setting out historical framework in which certain decisions have been made about the regulation of health and safety of underground mining. He expresses concern about an insufficient level of cohesion and organisation

within the coal mining workforce, the regulatory framework and the inspection process.

Mr Ewen, a reporter, has filed a submission questioning the adequacy of the role played by some and the appropriateness of regulatory change. He raises certain matters relevant to phase three. He also provided a schedule of fatalities in mining. They should not occur but as we know do and they do so with concerning frequency. By way of example, if we take the 25 year period from 1970 to 1995 there appears to have been at least one mining related fatality in all but four of those years.

Mr Dave Feickert a coal mine safety expert with international experience contends that regulatory reforms in the 1990s have left mine operators and workers to self-regulate. He questions the sufficiency of the mines inspectorate and the absence of chief inspectors. He expresses concern that while best mining practice in Australia and the European Union have improved, New Zealand's mining regulation and practices have receded.

Dr Murray Cave a geologist who provided advice to the Department of Conservation in respect of the Pike River Coal Field has filed a personal submission in addition to the evidence filed with the Department. He has expressed reservation about the extent to which there was a proper understanding of the geology and coal seam, including of the gas compositional data. He expresses concern about the disestablishment of the Mines Inspectorate Group in the 1990s and raises questions about the sufficiency of the basis upon which Crown Minerals granted the permit.

Dr Kenneth Palmer an Associate Professor of Law at the University of Auckland, has focused on conservation issues. He questions whether the provision of employment and health and safety in local communities ought to receive greater consideration and recognition during the planning and consent process. Upon his analysis the concept of sustainable management of natural and physical resources under section 5 of the Resource Management Act 1991 does not give overriding priority to ecological conservation but

requires a balanced assessment of community wellbeing, including economic wellbeing and health and safety.

Mr Gerry Morris, who had three family members working at Pike River Coal at the time of the tragedy and who has co-written two books about the West Coast and Buller mining industries, has raised concerns about the search and rescue, especially about whether there was sufficiently transparent communication with the families of the miners.

Mr Loader, a former inspector of quarries with the Mines Inspection Group expresses concern that the enforcement of health and safety laws in New Zealand is insufficient, being reactive than proactive and that that is mainly due to inadequate resourcing. In his view the mining industry requires an inspection service that has highly qualified staff with adequate senior managerial experience in the industry; is adequately resourced to carry out all its functions and funded through user pays levies.

Crown Law has filed significant material on behalf of the Departments of Labour and Conservation, Ministry of Economic Development and the Ministry for the Environment. It provides a high level overview of the various legislation as well as more detailed information if a policy and operational nature. It has been supported by many annexures including, for example, internal agency documentation and ministerial briefing papers. Some information about how those agencies undertook their tasks with respect to Pike River Coal has been provided and it is anticipated that more will be filed for subsequent phases.

The Grey District Council, Buller District Council and West Coast Regional Council have filed significant material about their involvement with Pike River Coal including detailed summaries of the interactions they had with it.

The concerns expressed at the hearing of 5 April this year about the extent of the potential engagement of Pike River Coal in the Commission's processes

have been overcome thus far. Certain of its directors, officers and management have co-ordinated with it to provide the Commission with voluminous records of Pike River Coal. We understand that they intend to continue to do so. Many of those records are of a type captured by the categories of information to which I referred earlier.

The New Zealand Fire Service Commission and the West Coast Rural Fire Authority provided detailed information about their involvement in the search, rescue and recovery, as have the Police and New Zealand Defence Force. We are anticipating that information from other regulatory agencies involved in the search, rescue and recovery will be filed shortly.

Certain contractors involved in the design and development of the mine have filed evidence. For example, URS has filed evidence as to its involvement in the mine together with supporting documentation. McConnell Dowell has filed evidence as to its involvement in the mine.

New Zealand Oil and Gas, the former owner and still a current shareholder of Pike River Coal has provided detail about its inception and development up to the date of the initial public offering in July 2007. It has provided documents containing independent reviews of Pike River Coal at certain points in time, including reviews of its management, the coal resource, its methods of mining and capital needs.

Mr Brian Jackson, a mining engineer and quarry manager, expresses concern about a lack of funding for the mines inspectorate towards the end of the 1990s. He says several factors led to the loss of a body of older and experienced inspectors. He says the coal mining industry is now largely self-regulating, which he says could never have been successful. Some submitters, for example, Mr Mildren, a shipping consultant, have expressed concern about whether the Pike River Mine ought to have been open cast.

The New Zealand Society for Risk Management has foreshadowed that in its view it is likely that differences in and omissions from risk management and methodologies will emerge in the investigation.

Mr Wastney, the consultant mechanical engineer who in March 2010 was involved with an investigation into the chassis failure of a Pike River Coal drift runner vehicle, suggests that, while from observations at the office safety systems were in place, at the mine face workers had to make do with the equipment that they had and safety was a secondary consideration.

Finally, the New Zealand NZ Amalgamated Engineering, Printing & Manufacturing Union has expressed a number of concerns, including about the regulatory regime being inadequately enforced and an insufficient involvement of workers and health and safety issues. It has provided a paper by Mr John Hughes, an employment law expert who has analysed that Health and Safety in Employment Act 1992 and by so doing has raised issues regarding its appropriateness, the extent to which it ought to be supported by approved codes of practice and whether New Zealand properly implemented the health and safety approach proposed by Lord Robens in his report of 1970 to 1972. I shall return briefly later to the approach proposed by Lord Robens.

I earlier mentioned the chronologies that have been prepared by the Commission's analysts. I shall now turn to those in a bit more detail. As stated by the Commission in its minute of 4 July this year, there are five chronologies so far. They outline certain dates and events relevant to New Zealand coal mining and production; the permits, access arrangements, and resource consents for Pike River Coal; the development of the mine; the financial position of Pike River Coal; its board, management and workforce. They are derived from evidence filed with the Commission thus far but not yet tested. Much of the evidence is yet to be received. It is almost inevitable that the chronologies will need to be added to or amended during the Commission's processes. Additional chronologies may be compiled. They are an aid to understanding events rather than evidence.

I shall now turn to some of the themes apparent in them. The New Zealand mining and coal production chronology shows a strong trend towards opencast mining. In 1939 2% of coal production was mined by opencast methods. By 1960 that percentage was 37% and by 1979 it was 69%. In 2010 total coal production was 5.3 million tonnes of which 1.3 million tonnes or 25% was produced by underground mining. The number of mines has reduced significantly. In 1953 there were 216 mines with approximately 5000 miners. By 1967 the number of mines had reduced to 120 working coal mines and that further reduced to 78 by 1973. At that stage there were approximately 1500 miners. By 1992 there were 64 mines and by 2000 there were 45 working coal mines. By 2009 there were five underground coal mines, four of which were on the West Coast. There were 16 opencast mines, 13 of which were in the South Island.

Those statistics do not portray the size nor complexity of some modern mines, nor the associated technological changes. Those factors, together with the trend towards fewer mines and the decline in underground mines are matters that are significant when understanding the demands on and requirements of an inspectorate.

The chronology of the permits, access arrangements, and resource consents show what a protracted and difficult process it can be to obtain the consents required for an underground coal mine. In March 1993 Pike River Coal applied for an expiration permit. It was granted that in July of that year. It later sought a mining permit which was granted in September 1997. It was necessary for it to have an access arrangement with the Department of Conservation. It first applied for that in June 1998. In July 1998 it sought consents from the local and regional councils. In February 1999 there was a hearing of certain consent applications and they were granted in June 1999. In July 1999 the Minister of Conservation and others lodged appeals to the Environment Court against the granting of certain consents.

In October 2000 Pike River Coal applied to the Department of Conservation for a new mining access agreement. In May 2002 it sought more resource consents. That was necessary following some changes to its mining proposals. By November 2002 not all required consents had been obtained. Pike River Coal applied to the Ministry of Economic Development to amend the mining permit to allow mining to commence within seven years rather than five or the date of it being issued. That was granted. In March 2004 the Minister of Conservation approved an access agreement subject to the negotiation of conditions by the Department of Conservation. In August 2004 the Environment Court appeal was resolved by a consent order.

The chronology includes a reference to further consents and agreements, including in respect of a petroleum expiration permit and latterly a resource consent to truck coal by road to Greymouth. That consent was granted in May 2007. By then it was approximately 14 years since the expiration permit was first sought.

The chronology of the mine development shows an equally drawn out process. In February 1995 a marketing assessment of the Pike River Coal field was completed. Over the next decade a variety of prefeasibility, geology and design reports were obtained. It was in 2005 that the Board of Pike River Coal resolved to accept the mine plan and mine planning strategy. More reports were obtained and contracts were entered into. In 2006 the development of the mine commenced. Tunnelling work started in September 2006. The going was difficult and at one point in November 2007 the board agreed to temporarily stop driving until certain work was done. Between November 2008 and February 2009 the construction of the ventilation shaft took place. On 19 February 2009 a rock fall occurred affecting a large part of the bottom of the ventilation shaft. A bypass was required. That was created between April and June 2009. Following installation the commissioning of the main underground fan commenced in October 2010. In November 2010 one of the contractors started work on a large scale excavation. As we know, on 19 November last year the first explosion occurred.

The financial chronology portrays an escalation of cost projections as time progressed. In May 1995 the estimated capital cost of the development was \$29.3 million. By March 1998 that had increased to \$41.3 million. In March 2002 it was \$56.79 million and by September 2006 the initial capital cost was estimated to be \$173 or \$174 million. In April 2007 it was estimated to be \$186 million and by May 2007 it had increased to \$207 million. Costs continued to increase and over the next few years more capital raising was required.

At the same time the chronology shows that production was running at a lower level than forecast. By October 2007 production forecasts for the year to 30 June 2011 had been downgraded from 620,000 tonnes to between 320,000 and 360,000 tonnes.

At this stage I want to sound two notes of caution. First, chronologies present information in stark manner. They cannot properly portray the individual efforts and hopes that invariably would have been attached to an undertaking of the magnitude of the Pike River Mine. Some of those are reflected in the determination to keep going over many years and the environmentally sensitive approach taken by Pike River Coal. In 2008 the Department of Conservation awarded it a certificate recognising the environmental consideration it demonstrated in the establishment of its mining facilities.

Secondly, it would be wrong to consider the chronologies and also the evidence received thus far in isolation. Not only have the people and entities the subject of them not had the opportunity to respond to them fully but they too have filed and will continue to file written evidence that may rebut certain allegations. A different picture may emerge when other evidence is received and considered.

As an example of other evidence, documents show that throughout the history of the mine Pike River Coal obtained expert advice from many. In the course of the design and development of the mine the range of expert reports

included geological reports, geotechnical reports, a report on the self combustibility of the coal, ventilation reports, assessments relating to the construction of the tunnel and reports on the technical feasibility and economic viability of the mine. The chronology of the mine development shows that from August through to October 2010 there was expert advice as to gas drainage monitoring and the ventilation system, amongst others.

Consideration was being given to the preferred location for another egress. Its safety systems included a voluminous health and safety manual, health and safety training and a health and safety manager. There is evidence that it had detectors to measure certain components of the atmosphere in the mine and safety cut-outs on certain equipment.

Put simply, the evidence is already complex and involves many differing perspectives. We do not yet have all of the evidence or even a large part of it. What we have is an untested part of the whole, which whole is yet to be received. It is only later that there can be proper consideration and weighing of all of the evidence.

I now want to turn to another question which has been asked, being whether any issues have been identified from the evidence received thus far. The short answer is, "Yes." They have been identified and arise from material filed for phase one. Evidence filed for the later phases will raise more issues. It may negate some of these issues, thus the issues may be added to or dissipate as the evidence unfolds. The issues I shall mention are of course not a reflection of your views. You have set out in detail the issue for each phase in your issues minute of 28 April this year.

The issues we have identified so far include whether New Zealand has or should have the three legs of the stool proposed by Lord Robens in his report of 1970 to 1972. The three-legged stool model is based on the principle that health and safety is best assured by a tripartite approach in which employees and regulatory agencies are all properly involved in ensuring health and safety; whether the regulatory environment and Pike River Coal properly

allowed for meaningful and effective employee involvement in health and safety; whether there was sufficient regulatory oversight. The focus in this regard is perhaps not on whether a particular person did his or her job properly but rather whether the Government agencies performed their roles properly and whether their systems were right; whether any agency assesses and assures itself or the appropriateness of the design of the mine, both generally and in so far as health and safety is concerned, and if so when and how that takes place; whether there are appropriate safety standards for underground coal mining. That will include whether they are sufficient and clear and well known and who should have responsibility for their promulgation. As an example, should there be approved Codes of Practice and if so who should be responsible for issuing those; whether consent to an open cast mine was ever sought and if so whether conservation or environmental law and practices impeded that; whether the geology of the area was properly understood; whether the nature of the coal was properly understood; whether the strata control in the mine was sufficient; whether the gas monitoring in the mine was sufficient or whether, for example, tube bundle monitoring would have been more appropriate and should have been required by a regulatory agency; whether Pike River Coal was under financial pressure and if so whether that impacted adversely on its health and safety; whether the ventilation system design, including the placement of the main fan, was appropriate; whether all of the equipment in the mine was intrinsically safe; and finally, whether those involved in the search, rescue and recovery were properly prepared, trained and equipped to do so.

I wish to emphasise again that those issues are only a selection of the issues that have arisen from the material filed for phase one. The evidence filed and given in other phases will invariably raise more issues.

That brings me to the fourth topic that I want to talk about being how the hearings are structured. You have divided the hearing into four phases. Phase one, the Context. Phase two, the Search and Rescue. Phase three, What Happened at Pike River. Phase four, Policy aspects. I want to talk briefly about each of those phases but perhaps in a bit more detail about the

purpose of the current phase, phase one. Phase one focuses on regulatory requirements in New Zealand, for example, how the regulatory agencies operate and are resourced and a description of certain matters relating to the conception, approval and development of the mine. Up to two weeks hearing time has been allocated, but as the hearing plan suggests not all that time may be required. Much of the information relevant to that phase has already been provided in writing and will generally not need to be covered orally.

Phase one is not designed to be conflictual; instead its purpose is to elicit basic information so that we can all gain an understanding of the regulatory environment and the design and layout of the mine. Without that basic understanding it will not be possible to properly engage in the later phases. That is not intended to mean that there are not significant issues related to the regulatory regime, its administration and resourcing. There are, and some of them will be covered in phase one, but others, for example, regulatory oversight of health and safety at the mine, will be covered later in phase three.

Nor does it mean that there will not be contentious issues regarding the conception, approval and development of the mine. There are. From our review of the evidence filed thus far, they include for example, those related to strata control, the adequacy of the ventilation shaft and ventilation system, the adequacy of the egresses and whether the overall design and construction of the mine was sufficient to ensure a healthy and safe place of work. However, those types of issues will be dealt with in later phases, after participants have had the opportunity to consider the voluminous material received thus far and thus they and you are better placed to assess and pursue relevant issues.

It is perhaps implicit that this phase one hearing may help us to identify additional information that will need to be gathered to better inform other phases of the enquiry. To that end, if a witness when giving evidence in this phase, and also in subsequent phases is unable to supply an answer to a relevant question or raises a new matter of relevance, then where appropriate, we will endeavour to obtain more evidence subsequently by liaising with the

relevant person or participant and, if necessary, inviting you to use your powers of compulsion.

Phase two is directed at the search and rescue including the cause of loss of life. It will start on 5 September this year. Up to three weeks has been allocated. That phase is likely to be conflictual. We have not received all of the evidence, but you will be aware of the concerns that have been aired in the media about those operations. They include whether they were properly conducted; whether false hope was given to the family and friends of the miners; whether rescuers should have gone in immediately after the first explosion or whether the mine should have been immediately sealed. It is anticipated that those and other matters will be considered in phase two.

Phase three is titled, "What happened at Pike River." It is focused on the cause of the explosion, Pike River Coal's operations and practises and the regulatory oversight of health and safety. The hearing date and duration have not yet been allocated. It will be conflictual. It will, for example, involve consideration of potentially competing evidence in relation to the adequacy of certain mine systems, health and safety systems and the culture of Pike River Coal.

Phase four is focused on the regulatory regime applicable to underground coal mining in overseas jurisdictions and a comparison of those to the New Zealand regime. It may involve hearings, but equally much of that phase may be able to be undertaken by way of submission. Expert panels and expert conferences maybe used. The hearing date and duration have not yet been allocated.

The final topic I wish to talk about briefly is the content of the phase one hearing. Today we will hear first from Dr Don Elder. He is the chief executive of Solid Energy New Zealand Limited, a state-owned enterprise and the largest coal mining company in New Zealand. He'll give evidence about the types of steps that are appropriate when considering whether and how to

design and develop an underground coal mine, both generally and particularly on the West Coast.

Tomorrow we will hear from Dr Jane Newman. She is a geologist who, in the course of her PhD undertook geological work relevant to the Pike River coal field. She will give geological evidence, including that relating to the nature of the coal seam and the geology within the region.

Tomorrow you will also hear from Mr Harry Bell, a former chief inspector of mines who has been engaged by the families. His evidence will focus on the operation of the inspectorate at the time at which he was a part of it, including its method of operation and also on certain regulatory issues. Either tomorrow or on Wednesday you will hear from Mr Robin Hughes who was the Chief Inspector of Mines during much of the 1990s. That period is of interest because it is the period during which the mining inspectorate group transitioned from the Ministry of Commerce to the Department of Labour.

On Wednesday or possibly Thursday, depending on how progress is being made, you will hear from two witnesses from the Ministry of Economic Development. The first, Mr Alan Sherwood, is a senior geologist within the New Zealand Petroleum and Minerals branch which was formerly known as Crown Minerals. He was not involved in the granting of the coal mining permit to Pike River Coal which was granted a long time ago, in 1997. However, he has reviewed the file and will provide an overview of certain matters.

The second, Mr Robert Robson, is the manager of Petroleum Minerals policy within the New Zealand Petroleum and Minerals branch. He is responsible for the preparation of the Minerals Programme 2008 which sets out mandatory criteria and policy to be taken into account in assessing whether permits should be granted or revoked. He will give evidence relating to that and also certain regulatory and operational matters.

On either Wednesday or Thursday you will hear from Mr Colin Dall of the West Coast Regional Council. He will give evidence in relation to the granting of the resource consents for the mine.

On Wednesday or Thursday you will also hear evidence from two witnesses from the Department of Conservation. The first is Mr Craig Jones. Between 2000 and 2010 he was the Department's community relations officer for mining on the West Coast. A considerable part of his role involved processing and administering the Pike River Coal access arrangement. He will give evidence about how access arrangements and their conditions are negotiated and about the history of his dealings with Pike River Coal. The second is Mr Mark Smith. In March 2005 he was appointed the liaison officer between the Department and Pike River Coal to monitor the development of the mine. He will give evidence about his role, including visiting the mine, reviewing annual work plans of Pike River Coal and monitoring compliance with those plans and the access arrangements.

On Thursday or Friday you will hear evidence from two witnesses from the Department of Labour. The first is Mr Michael Firmin. He is an inspector with the Department and has been since 1995 with a responsibility for mines inspections since 1999. He was not the inspector primarily responsible for the inspections of Pike River Coal. He will give evidence about the way inspectors go about their duties. I should note that it is almost inevitable that at phase three oral evidence will be received from the inspector who is primarily responsible for the inspections of Pike River Coal. It just so happens that that inspector is not available at present and nor is that evidence of what happened at the mine the focus of this phase.

The second witness will be Mr James Murphy who is the workplace health and safety policy manager. He will give evidence related to certain policy aspects including issues related to the development of approved codes of practice. Those witnesses will comprise the witnesses for the first week. It is anticipated that their evidence will be able to be heard within that timeframe. As foreshadowed earlier some of the participants have been granted leave to

cross-examine. It is anticipated that some oral applications may be made and the hearing schedule allows time for relevant cross-examination.

It is perhaps notable that witnesses from the state agencies and the regional council do not include the chief executives. State agencies and also the councils have offered to make available the relevant people within the organisations, including the chief executives and their deputies. It just so happens that the purpose of this phase is to find out what is done at a grass roots level. It may be that at a later point in time, either in writing or orally, there will be further questions asked about why things are done, some of which might appropriately be directed at a different level within those agencies.

In the second week you will hear evidence from Mr Peter Whittall who, as many people will be aware, is the Chief Executive Officer of Pike River Coal. He will give an overview of the design, development and construction of the mine. The purpose of him giving that evidence is to help gain an understanding of those matters. It is not intended to explore with him now whether any of those matters were appropriate because that is best done at a later stage after the Commission and participants have had the opportunity to receive and consider relevant material. As indicated earlier, that more detailed assessment of what happened at Pike River will occur during the phase three hearing.

That brings me almost to the end of this opening. I want to thank you for your time and also to return to where I started, talking about the men and in particular to say a few words to their families and friends. We have seen you on television since 19 November last year. We met some of you earlier this year. Your tragedy has been public and it has been drawn out. Your patience has been extraordinary. Parts of this process may test that patience further and for that we are sorry. But from it we hope will come, for you and all others with an interest in this inquiry, a proper understanding of what happened and recommendations that ensure the health and safety of miners in future. Thank you.