



OFFICE OF THE STATE CORONER FINDINGS OF INQUEST

CITATION: **Inquest into the death of Michael Earle Auld**

TITLE OF COURT: Coroners Court

JURISDICTION: Cairns

FILE NO(s): 2008/256

DELIVERED ON: 26 August 2013

DELIVERED AT: Cairns

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26 – 28/11/2012

FINDINGS OF: Kevin Priestly, Coroner

CATCHWORDS: Mining inquest, service crew member crushed between working platform on loader and tray of Landcruiser, safe working procedures, safety awareness.

REPRESENTATION:

Counsel Assisting: Ms S Williams, i/b Office of the Northern Coroner

BHP Billiton Minerals Pty Ltd: Mr J Murdoch, Senior Counsel,
i/b Herbert Smith Freehills

Red Path (Formerly EROC): Ms S Gallagher, Counsel, i/b Clayton Utz

Mines Inspectorate: Mr J Tate, Counsel, i/b Queensland Department of Mines and Energy

Introduction

Michael Earle Auld was 50 years of age and lived with his wife at Tin Cay Bay, Queensland.

On 17 January 2008 Mr Auld was working in the employ of EROC Pty Ltd (to become Redpath Australia Pty Ltd), a contractor providing underground mine services to BHP Billiton Minerals Pty Ltd (BHPB), the holder of the Cannington Mine Lease. The Cannington Mine is located about 80kms south of McKinlay, west of Townsville. Mr Auld had worked for Redpath at Cannington for about 14 months.

At approximately 11.07am Mr Auld was fatally injured while working underground on the 375 metre level when he was crushed between the rear of a Toyota Landcruiser utility and a basket (working platform) attached to a Volvo L120D loader.

Included in the Appendix are images taken from the Mines Inspectorate's report showing the vehicles involved in the incident.

The immediate circumstances surrounding the fatality are not in issue.

Mr Auld was part of a three-person service crew; the other two members were Apimeleki Rabuka, Miner, and Graham Box, Boilermaker. All were employees of Redpath. The crew worked twelve hour shifts from 5.30am to 5.30pm. This was the first day that the three had worked together as a crew.

Mr Auld, Mr Rabuka and Mr Box were directed to extend services into a fresh air base on the 375 metre level. This involved accessing the service lines on the roof of the drive. Mr Auld and Mr Box drove to the location in a Landcruiser utility with all of the necessary parts and tools in the tray. Mr Rabuka drove the Volvo loader to the site. On arrival all three men stood at the rear of the Landcruiser and discussed how to do the job. Mr Auld asked Mr Rabuka to bring the basket on the Volvo loader closer to the back of the tray on the Landcruiser in preparation for the transfer of equipment from the tray to the basket. The plan was to raise the basket with crew members and equipment aboard to access the roof.

Mr Auld and Mr Box faced towards the tray, checking equipment and paperwork while Mr Rabuka approached with the Volvo loader. Mr Box turned to face the approaching Volvo loader, initially signalling it forward. When the basket was close, he signalled to Mr Rabuka to stop.

Mr Rabuka saw the hand signal from Mr Box and slowed the Volvo loader. At this point, Mr Rabuka either stopped momentarily and continued or failed to stop. Mr Auld was crushed between the basket and the tray of the Landcruiser. Mr Box escaped injury due to the angle at which basket closed on the Landcruiser or he was just out of the crush zone.

Mr Rabuka reversed the Volvo away, releasing Mr Auld. Mr Box attempted to raise the alarm using the radio in the Landcruiser but was unsuccessful. Mr

Auld walked to the passenger side of the Landcruiser and seated himself inside. He asked Mr Box to take him the surface. Mr Box drove the Landcruiser towards the decline. On arriving at the fresh air chamber on the same level, Mr Box saw a loader operator and sought his assistance. That operator called in the emergency using the radio in his loader. Mr Box supported the head of Mr Auld who had lost consciousness but was still breathing. An emergency response was initiated and an ambulance dispatched from the surface with a nurse to retrieve Mr Auld. In the meantime, other personnel removed Mr Auld from the Landcruiser and started CPR and EAR until the ambulance arrived. A defibrillator was attached to Mr Auld. He was administered oxygen therapy and adrenalin. On assessment of his condition and in consultation with the Royal Flying Doctor Service (RFDS), Mr Auld was relocated to the Medical Centre on the surface. He arrived at approximately noon. Oxygen therapy and CPR continued. The RFDS arrived at Cannington Mine at about 1 pm and Dr Murphy immediately assessed Mr Auld. He was found deceased and further resuscitation effort was futile.

An autopsy was conducted and confirmed that Mr Auld died due to crush injuries sustained to the abdomen and chest.

Coroners Role

I am required to make findings about who died, when the person died, where the person died, what caused the person's death (the medical cause of death) and how the person died. Most of the required findings can be made on the available information. The question of how Mr Auld died requires more detailed consideration. In pursuing this course, I am mindful that a Coroner is precluded from including in the findings any statement or comment that a person is or may be guilty of an offence or civilly liable for something (s.45(5) and s.46(3) of the Coroners Act 2003).

In addition to the required findings, I am mindful that a Coroner may, whenever appropriate, comment on anything connected with a death investigated at an inquest that relates to public health or safety and ways to prevent deaths from happening in similar circumstances in the future.

Matters Not In Issue

A multi-agency investigation was initiated into the circumstances surrounding this fatality. A Mines Inspectorate investigation culminated in a report that provided the foundation for discussions during the directions hearing, about what matters required further investigation at this hearing.

The first issue and obvious issue is why the Volvo loader failed to stop before crushing Mr Auld? A number of possible contributory factors were investigated and excluded.

Redpath owned the Volvo loader. A comprehensive mechanical inspection was conducted and found the Loader was in good serviceable condition with only minor defects. The service and park brakes were fully operational. I am satisfied no mechanical defect contributed to the incident.

Mr Rabuka received inductions and training relevant to his employment. He completed generic surface and underground inductions related to mining as well as underground and surface inductions specific to Cannington Mine. He was trained and assessed as competent to operate the Volvo loader, having completed his training on 3 December 2007. He logged 73 hours of operational experience on the Volvo loader under training. Mr Rabuka's training records were reviewed and all of the requisite core competencies were addressed. The training package he underwent was comprehensive. A number of witnesses gave evidence that since he was ticketed in the operation of the Volvo loader, he demonstrated competence in normal operations. Mr Rabuka was aware of the basic give way rule in relation to pedestrians. The task he was asked to perform was well within the competencies for which he was qualified.

Mr Rabuka had the benefit of adequate lighting from the Volvo loader and saw Mr Box without any difficulty. He saw and understood his hand signals.

The scene was flat and level. There is no suggestion that the surface on which the Volvo loader was operating might have contributed to the incident.

There are a number of possible explanations for why the Volvo loader failed to stop.

Mr Rabuka may have made an error of judgement in the timely application of the service brake. Another possibility is that he attempted to apply the service brake but his foot bridged the service brake and differential lock cover that protruded from the floor, impeding or hindering access to, or the application of pressure on the service brake. Another possibility raised on the evidence is that Mr Rabuka applied the brake and simultaneously rose to stand in the cabin. Although he momentarily stopped the Volvo loader, on standing the pressure on the service brake released and it continued forward. Each of these explanations might be characterised as an error in the operation of the Volvo loader.

On 4 June 2010 Mr Rabuka was convicted and sentenced in the Magistrates Court of Townsville for a breach of s.31 of the Mining and Quarrying Safety and Health Act 1999, for failing to ensure the risk of injury to Mr Auld was kept at an acceptable level. Industrial Magistrate Smith found his failure to keep a proper lookout and poor judgement in the application of the brakes was responsible for the death of Mr Auld. I am not bound by that decision in this inquest. However, I have reviewed the transcript of that proceeding and all of the evidence gathered for this inquest. I came to the preliminary view that a different outcome was unlikely and that re-examining that issue was unlikely to lead to a better understanding of the nature of the error Mr Rabuka made. I was also mindful that the incident had a profound affect on Mr Rabuka and that further questioning of his actions was likely to have an adverse affect. I advised the parties, including Mr Rabuka, of my preliminary views during a directions hearing. No submissions were received to the contrary. Finally, the intended focus of the inquest was primarily to develop a better understanding of how the safety of Mr Auld was managed at an operational and

organisational level and whether the lessons to be learnt were fully explored. Thus the focus was on safety management and not individual responsibility.

Another issue considered was the quality of radio communications.

When the incident occurred, Mr Box was unable to make radio contact with the surface or control room to transmit his emergency call. While two way radio works effectively on the surface, it is far less effective underground as radio waves are unable to penetrate rock within drives or levels. A 'leaky feeder system' with wire acting as an antennae run through the mine was used to overcome this problem. However, from time to time, black spots developed where the leaky feeder system did not operate effectively. Standard procedure was for workers to report communication issues to mine control and technicians were dispatched to repair the black spot. The cause of communications failures were such things as broken lines due to firing or failed boosters requiring replacement. There was an ongoing repair and maintenance program for the leaky feeder infrastructure. There was evidence that Managers had no hesitation in shutting down operations if there was any major interference with radio communications. One occasion was reported when all mining was stopped for 45 minutes until a repair was completed.

A number of witnesses have addressed the issue of radio communications' in their material. I am satisfied that the radio infrastructure and equipment as well as its maintenance and repair programs are of a high standard. The operating procedures and training provided to mines personnel are also of a high standard.

However, there were limitations to what was achievable. The drive (tunnel) where this crew was working was relatively new. It was about 6 months old and about 40m long. All services had not been installed including the leaky feeder cable. Mr Seymour, the supervisor for this crew, said radio communications to and from this location was known as 'not great'.

Although there was a delay in activating an emergency response, in the context of the injuries sustained and the longer timeline before higher level medical assistance arrived at the mine site; the comparatively minor delay was of no consequence to the prospect of survival for Mr Auld.

Matters Requiring Further Investigation

To understand the approach I have taken to identifying the matters requiring further investigation, a basic understanding of some aspects of safety management would help the reader.

Most routine work tasks in mines are subject to safe working procedures which may take the form of a Safe Working Instruction (SWI). This approach focussed on a particular activity or task. The activity is risk assessed to identify any hazards and to decide on what control measures to use to reduce the risk of injury to an acceptable level. In the case of mobile equipment, it is risk assessed to identify any hazards including those associated with its various uses and to decide what control measures to use to reduce the risk of injury to an acceptable level. This approach focuses on the object and its use.

Once safe working procedures are devised and documented, workers are trained on the procedures until competent, and compliance with those procedures is enforced through adequate supervision. There may be recurrent training to ensure competencies are maintained and to train workers on any changes to safe working procedures.

Not every routine task requires a safe working procedure. The normal approach is to prioritise higher risk activities.

Not every routine task can be performed in the same manner, perhaps due to differences in the physical setting at the work site. There also remains the need to address non-routine tasks. In these circumstances, it is common to have in place a requirement for a risk assessment before starting a task to identify hazards not addressed in a relevant safe working procedure or to develop from scratch a safe way of performing the task. In the former situation, an informal risk assessment such as a Take 5 Assessment might be done. In the latter situation, the risk assessment might take a more formal and sophisticated approach of a Job Safety Analysis.

Safety is not all about the existence, effectiveness and compliance with safe working procedures within a safety management system. There is an overlay of safety awareness and culture that permeates every organisation and is influential in influencing safety outcomes. Safety culture is often defined in a pragmatic manner as, "The way we do things around here". Complacency can arise from the constant repetition of similar tasks without experiencing harm. Complacency is not the conscious adoption of a cavalier, care free or less caring attitude. The apparent absence of risk at an individual level can collectively permeate an organisation.

There is another challenge for safety managers. Some academics and practitioners in the field of safety management suggest excessive proceduralisation is conducive to forgetting, neglecting and avoiding everything that has not been formalised.

In a 1991 published study about safety rules in the Dutch railways, a survey of workers revealed only 3 per cent used the rules book often, and almost 50 per cent never; 47 per cent found them not always realistic, 29 per cent thought they were used only to point the finger of blame, 95 per cent thought that if you kept to the rules, the work could never be completed in time, 79 per cent that there were too many rules, 70 per cent that they were too complicated and 77 per cent that they were sometimes contradictory. Similar studies were conducted in different industry settings since that study with similar results (Trapping Safety into Rules, Bieder and Bourrier, 2013).

There is also a tendency to comply with prescriptive detail of procedures without thought that can be counter-productive to safety awareness. Typically, safety managers settle on a blended or hybrid approach. Safe working procedures are developed and implemented in the context of a safety management system with programs directed to developing a culture of risk/safety awareness.

A disturbing feature that caught my attention and was ultimately influential in my decision to convene an inquest was the initial impression that at least 2 of the 3 workers involved in this incident did not appreciate the potential for a crush injury. Mr Box might have appreciated that potential at the last moment. This raised the following questions in my mind:

- What were safe working procedures relevant to the circumstances in which Mr Auld was killed?
- How effective were those procedures?
- What remedial action was taken?
- Have the lessons to be learnt been fully explored?

I am mindful that my approach starts with the hazard, framed by the circumstances of the death, and work backwards to the appropriate control measures. Clearly, that approach involves the benefit of hindsight. In contrast, the approach of safety managers responsible for the development of safe working procedures attempt to proactively identify all hazards and then select appropriate controls measures. Although every effort might be made to maximise the identification of hazards, there will be gaps. Similarly, many broad strategies may be used to manage a specific hazard; some are likely to be more effective than others. Many strategies overlap. With the growing complexity of safety management systems, gaps emerge that were not immediately apparent. In the event of an incident and with the benefit of hindsight, gaps or shortcoming can appear obvious.

Roles and Responsibilities for Safety

BHPB was the operator of Cannington Mine and contracted Redpath to supply underground mines services inclusive of plant and labour. At the time of incident, Mr Shane Johnson was the Developmental Superintendent with BHPB responsible for overseeing and prioritising the work allocated to Redpath. Mr Seymour was one of two supervisors for Redpath responsible for supervising the service crews. It was Mr Seymour who allocated the task to Mr Auld, Mr Rabuka and Mr Box to install the T piece to the air line that morning.

Mr Seymour provided a statement in which he reported that Redpath applied the safety policies and procedures of BHPB unless there was no coverage of the activity in which Redpath was involved. In that event, the policies and procedures of Redpath applied. Mr Seymour reported that Redpath had access to BHPB's intranet on which all policies and procedures were maintained. He was notified by email alert of any changes.

An example of this approach relates to the Volvo loader. When it was introduced to Cannington, BHPB operated a CAT fleet. Therefore, Redpath was required to undertake a major risk assessment specific on the Volvo loader. However, BHPB had procedures in place for the installation and repair of air and water services with which Redpath was required to comply.

Hazard Identification, Control Measures and Safety Awareness

It is important to record that BHPB and Redpath each had a safety management system in place. However, it is not necessary for me to review and map out the nature, extent and effectiveness of the safety management systems. The approach that I have taken is to focus on the nature of the incident, the specific hazard implicated, and the control measures relevant to that hazard in the context of those safety management systems.

What were the relevant safe working procedures?

Mr Seymour, as did most of the managers at Redpath, characterised the hazard involved in the death of Mr Auld as a crush zone. Mr Seymour was not aware of any written policy or procedures about one vehicle being moved towards the other. He said experience suggested the Landcruiser should be taken to the IT and not the other way around. This appeared to be based on the capacity of the Landcruiser for more subtle or finer movements compared to the Loader.

Mr Tim Westendorf was the Health, Safety, Environment and Training Superintendent with Redpath at Cannington up until one month before this incident. He then transferred to another mining project with Redpath. Mr Westendorf characterised the hazard as a crush zone and while he could not recall if it was in writing in any policies or procedures, in his view it was well understood throughout industry that you do not stand between a moving object and a hard surface.

Mr Westendorf referred to the *Major Equipment Risk Assessment for the Operation of the Volvo L120 Front End Loader on the Cannington Mine Site*. The stated objectives of the risk assessment was to identify risks associated with the machine relative to the intended operation and recommend controls or barriers that can be put in place to bring these risks to an acceptable level. The methodology used was a typical risk assessment process involving defining activities and sub activities, identifying the risks and hazards associated with those activities, assessing the risk, identifying proposed controls and formulating contingency plans. The risk assessment was documented in the form of a schedule with a separate row identifying an activity, its principal hazards and the control measures (at a strategic level).

At item numbered 34, the activity identified was 'Tramming up and down grades'. Various hazards were identified, for example, 'Runaway' and 'Rollover'. In respect of each, numerous controls are identified. Relevant to 'Runaway' was Operator Training, Machinery Design, Preventative Maintenance, Periodic Brake Testing etc. One of the hazards of Tramming was 'Collision with Pedestrian' where following controls were identified:

- Operator Training
- Machinery design
- Preventative maintenance
- Periodic brake testing
- Pre start checks
- Seat Belts
- Flashing Lights

- Radio Communications
- Mine Traffic Rules
- Active Policing Policy
- High activity pedestrian areas well illuminated
- High visibility clothing
- Induction training
- Mine design

At item numbered 35, the activity identified was 'Operating Underground'. Amongst the hazards identified was 'Collision with Pedestrian' and the list of controls was identical to that listed for item 34.

At item numbered 38, the activity identified was "Injury to personnel - fall from L120' and the risk assessment contemplates 'Personnel injury falling from cage'. The controls were 'approved cage' and 'work at height policy'. Later at item 44, various hazards associated with use of a cage (a form of working platform) were canvassed including 'falling objects from cage', 'personnel falling from cage', and 'tipping of personnel from the cage'.

Some of the control measures listed in the Risk Assessment referred to matters covered in the safe working procedures of BHPB. For example, Mine Traffic Rules. Other control measures involved programs that Redpath conducted, for example, operator training. Some like induction involved both Redpath and BHPB.

Some effort was made to take me to sections within the manufacturers operations manual for the Loader relevant to the potential for a crush injury and associated warnings. That document was included in the operator training program. However, any such references were not prominent. Further, they appeared in a different operational setting. Finally, those references did not address the need for training of others working in close proximity to the Loader.

The procedures dealing with Mine Traffic Rules are also written in a manner that suggests a traffic management context such as mobile equipment passing pedestrians in a drive or decline. While a literal interpretation of pedestrian might suggest it covers people standing, walking around and interacting with mobile equipment and working with an operator to perform a joint task; the language used suggests a broader traffic context.

I do accept that the broad thrust of all training that workers underwent about traffic rules carried with it an overriding theme which might appear obvious; mobile equipment operating in close proximity to people gives rise to the risk of a crush injury.

During an exchange with Counsel, it was put to Mr Westendorf that the Traffic Rules provided no assistance in guiding the service crew about the hazards associated with the loader approaching the Landcruiser while people were between. His response was not clear (through no fault of Mr Westendorf). However, the point remains. Most of the safe working procedures embodying those rules essentially say that mobile equipment must give way to people.

However, in this instance, the loader was moving forward in response to a signal from a team member. It is this exact situation that the safe working procedures did not address.

The SWI for Installation and Repair of Air and Water Services is a BHPB created document. The format comprises a schedule with three columns, the first identifies various tasks, the second column expands on the steps to be performed for that task and the third column lists key points relevant to safety. Symbols are used in the last column to emphasize warnings, caution and danger. Some steps make reference to other SWI's such as 'Working in a Basket at Heights' and 'Underground Isolation, Tagging and Lockout'.

In a section that addressed the equipment needed at the top of the schedule, there was reference to an IT Carrier and Basket. In the first task, Prepare Gear, the second step was: Pre start IT Carrier and check basket according to SWI-UG0036C Working in a Basket at Height. The third step was: 'Load basket with materials required for the job leaving as much clear space as possible in the basket'. The key point was: 'Examine basket and ensure guardrails and gate are in good condition and that the gate locks in the closed position'.

There was no reference to a task or step of moving vehicle closer to effect a transfer of tools and other equipment into the basket. I strongly suspect the SWI was written on the premise that material relevant to the operation of mobile equipment was included in its own safe working or operating procedure.

Therefore, the SWI did not offer any guidance relevant to this hazard.

The issue of safety awareness also arises.

Mr Seymore reported on the Take 5 program in which all employees were trained and participated. Before any job was started, the crew would conduct a Take 5 assessment to identify any hazards associated with the work task and how the crew planned to manage those hazards. This service crew completed a Take 5 assessment before starting this job. A copy of the Take 5 assessment was admitted into evidence and a copy is included in the Appendix. It is sufficient to note that Mr Westendorf and Mr Christie accepted that the quality of the assessment (on a scale of high, medium or low) was low. The expectation was that on selecting the nature of the hazards (marked with a tick), the controls to be used would be noted. Although the note is brief, little correlation appears between the hazards selected and the control measures noted.

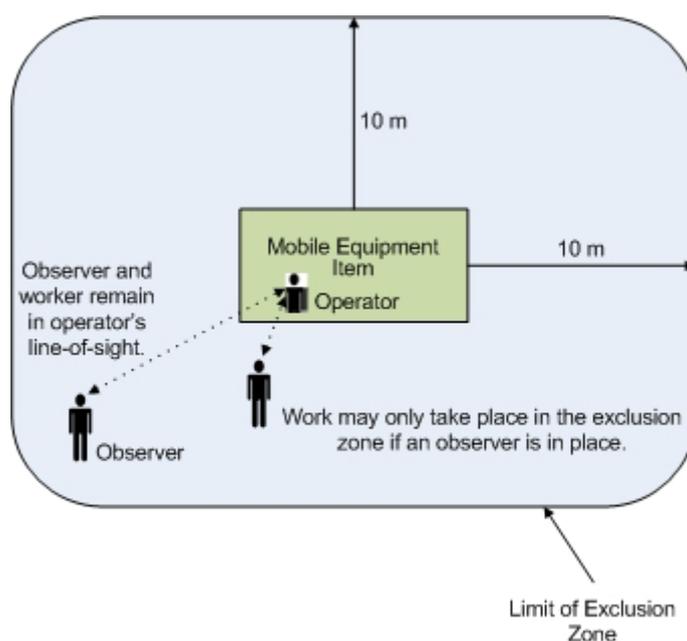
Remedial Action - BHPB

Mr Ed Cooney started at Cannington with BHPB as Deputy Mine Manager on 1 April 2008. Shortly after he started, the procedure for an exclusion zone was introduced and rolled out to all mining crews. His statement attaches the relevant underground procedures applicable to the operation of mobile equipment prior to the change as well as after the change. The then existing procedures were extensive but focused on traffic management by prescribing

give way rules between pedestrians and mobile machinery. The new procedure's address workers in the vicinity of and working with mobile machinery. Section 4.1.7 of the Procedure dealing with Underground Mobile Equipment provides:

Normal give way rules apply at all times when mobile equipment is being trammed from one location to another.

However when mobile equipment is being used to undertake operational tasks (e.g. hanging vent, loading supplies into IT baskets, mucking operations etc) then a 10 metre exclusion zone where practicable (as described below) applies for all pedestrian activity.



An exclusion zone exists for all pedestrians who are not directly involved in the operational activities of mobile equipment.

Where people need to work on foot within the 10 metre exclusion zone and are not in line of site with the operator then a dedicated observer must be in place.

The observer and workers on foot must position themselves so as to not be in the line of travel of the mobile equipment.

They must remain in constant communication with the mobile equipment operator; the worker, and/or observer must be in line of site of the mobile equipment operator. An observer must be in place if the worker is not in the operator's line of site.

Where a dedicated observer is not present any pedestrians entering the Exclusion Zone on foot must:

- Make positive communication with the operator of the machine, via radio communication or cap lamp signal.
- The machine operator must lower all implements to the ground and apply the park brake and not perform any operations whilst people are in the 10 metre Exclusion Zone, however the machine may remain running.

The procedure is incorporated into induction and training programs (including IT training) and is also subject to in-field monitoring and enforcement.

It may be argued that an application of the 10m exclusion zone to the present circumstances might not have changed the outcome. The important requirement for persons not to place themselves in the line of travel might just as readily been overlooked. However, to my mind that ignores the real prospect that education and training, together with enforcement by Supervisor, will raise safety awareness particular about the potential for crush injury within the exclusion zone.

Ms Jane Moss was the current Head of Health Safety Environment and Community at Cannington at the time of the hearing. She holds tertiary qualifications in health and safety and started her career with BHP as a graduate. She has considerable mining industry experience. The evidence of Ms Moss was based on a review of all records and reports relevant to the incident. She described the safety management standards of BHPH at the time of the incident as very prescriptive with strict adherence to its operational requirements demanded of all employees and contractors. While this approach continues, Ms Moss emphasized a maturing in safety management was underway at the time of this incident that involved a cultural shift with greater effort on integrating the risk management processes with heightened awareness of safety within the workforce. Ms Moss reported that BHPB implemented the Better Attitudes Toward Safety (BATS) program, as well as a Zero Harm culture program.

Mr Shane Fielding, the Project Superintendent at Cannington Mine, provided extensive information about BHPB's investment in exploring the extent to which Proximity Detection Systems (PDS) might work as a higher order control measure to reduce the risk of injury. The basic concept is that workers wear active tags that will be detected by vehicle mounted readers alerting an operator to the proximity of a person on foot. Technical difficulties have been experienced. There have been hardware and software changes. Presently, PDS is not effective within the inner zone (within 10m). However, efforts and investment in the program is continuing.

BHPB had a comprehensive safety management system at Cannington and a large volume of material was placed before me relevant to its effectiveness. The senior managers and safety professionals at Cannington mine demonstrated a genuine and serious commitment to safety. Understandably, they sought to persuade me, by reference to the depth, breadth and sophistication of the system, that it was very effective. It is also clear that following this incident; there was considerable introspection and reflection. It must be borne in mind that a safety management system is essentially a risk management system. Even the most effective of such systems will not result in a risk free environment, particularly in a high-risk environment like mining. The fact that a fatal incident happened and opportunities for improvement were identified, even to the extent that new control measure might have substantially reduced the risk of death in similar circumstances, is not a basis

for adverse comment, or finding about the effectiveness of the safety management system.

I am satisfied that BHPB has fully explored the lessons to be learnt and reasonable exhausted all opportunities for improvement.

Remedial Action - Redpath

Mr Westendorf reported on his review of the 10m exclusion introduced shortly after the incident. The requirement was introduced throughout all Redpath operations in Australia.

Mr Graeme Christie was the Health, Safety, Environment and Quality Manager for Redpath responsible Australia-wide for the management of health and safety. He reviewed the circumstances of this incident and how safety was managed as between BHPB and Redpath. He reported that in June 2011 and following amendment to the mining legislation requiring a single safety management system within a mine, work started on incorporating the Redpath safety management system into BHPB's system.

Mr Christie reported on the remedial action taken immediately after this death. There were toolbox meetings with employees within 7 days to ensure that the Landcruiser was moved to the IT to facilitate the transfer of equipment. Crews were trained in conducting a Job Safety Analysis (JSA) and directed to complete a JSA for each job. The JSA requirement applied for 3 months. They were collected and reviewed to review all hazards associated with work tasks and to review the adequacy of existing safe working procedures and to identify the need for new ones. Immediate efforts were also made through safety presentations to reinforce the need for greater safety awareness around the operation of mobile equipment.

On 8 February 2008 a risk assessment was undertaken at Cannington into the interaction of pedestrians and vehicular traffic that resulting in a recommendation for a 10m exclusion zone at the front and rear of loaders, a requirement that the Landcruiser be moved to the loader, and the development of a safe working instruction. The recommendations of the risk assessment were ultimately incorporated into BHPB's safety management system.

Mr Christie considered the remedial action taken had improved safety at Cannington. However, he recognised complacency was a challenge. In an endeavour to address complacency, Redpath undertook the following:

- Throughout late 2009 and early 2010 Redpath engaged Kim Hughes and Ken Judge (Captain and Coach) to conduct presentations entitled Good to Great and Team Work regarding personal choices and behaviors for successful teams at all of its project sites, including Cannington Mine.
- In May 2010 a BA-SIC (Behavioural Attitude - Safe Individual Consequences) presentation was conducted at the Mine; and

- A presentation in June 2012 by Helen Fitzroy called "Just a Number", which is about Helen's story of living life without her husband and raising her two children after her husband was killed while working in the mining industry. The purpose of this presentation was specifically to re-focus employee's attention on ensuring that they return home after each and every shift.

It is apparent that with the incorporation of Redpaths safety management system into the BHPB safety management system, Redpath acknowledges the challenge is complacency and has shifted the focus of its contribution to safety to awareness raising and the development of a better safety culture.

Findings required by s. 45

Identity of the deceased – Michael Earle Auld

Place of death – Cannington Mine, McKinlay, Qld

Date of death– 17 January 2008

Cause of death – 1(a) Multiple injuries, due to
(b) crush injury to abdomen & chest

How he died –

1. On 17 January 2008 Mr Auld was working underground as a member of a three person service crew at Cannington Mine preparing to start work on an extension of air services. He was standing at the rear of a Toyota utility with his back to an approach loader operated by another crew member. The plan was to transfer tools and other equipment into the basket on the loader to gain access to the roof of the drive where the existing air line finished.
2. A third crew member was directed the loader operator forward. However, on signalling to stop, the loader continued and crushed Mr Auld between the loader basket and the tray of the utility. He later died from those injuries.
3. While BHP Billiton, the mine operator, and Redpath, the mining contractor and employer of Mr Auld, had in place safe working procedures that addressed the potential for injury to pedestrians in the vicinity of mobile equipment in the context of traffic management, those procedures did not descend to the level of detail to address persons working with and in close proximity to mobile equipment.
4. While both organisations had reasonably effective safety management systems, they identified opportunities for improvement at a procedural and organisational level. More detailed safe working procedures were developed and implemented imposing a 10m-exclusion zone with

specific safety precautions for those working within that zone. In particular, no person to enter or remain in the line of movement.

5. Further, both organisations have implemented programs aimed at improving and maintaining safety awareness.
6. I am satisfied that all lessons to be learnt were fully explored and all opportunities for improvement were fully identified and implemented.
7. Accordingly, I have no recommendations.

I close the inquest.



Kevin Priestly
Coroner
CAIRNS
26 August 2013

Appendix to Findings



The rear of the Landcruiser



The front of the working platform
attached to the Volvo Loader at the rear



The loader with the attached work platform positioned adjacent to the rear tray of the Landcruiser



The valves, fitting and tools in the tray of the Landcruiser to be transferred to the work platform

TAKE 5 for TASK at time of FATALITY

Take 5 record

IDENTIFY

Job Location: 375 LVL

Job Description: PIPE SERVICE

Legend: (employee checks) {supervisor checks}
Tick if concerned

(/)	{ }	Do I think that the job can hurt someone?
(/)	{ }	Do I think that the machine I am using can hurt someone?
(/)	{ }	Can I be caught in or between anything?
(/)	{ }	Can I strain or overexert myself?
()	{ }	Can this pressurised system hurt me?
()	{ }	Can I be burnt/electrocuted?
()	{ }	Is the air OK to breath where I am going (gas, fumes or dust)?
()	{ }	Am I concerned that something may fall on me or strike me?
()	{ }	Can I fall more than 2 metres?
()	{ }	Can I slip or trip on anything?
()	{ }	Have I used the equipment or done the job lately?
()	{ }	Is there a chance I can spill or pollute something?

Are there any significant hazards?
YES / NO

Job/Shift Notes

DATE: 16.01.08 SHIFT: DN

P.P.E
VENT
MEN WORKING IN
BUSCKE.

NIU

Participants: Mick BINGDA ^{Time}

Crew Member/s: >

Supervisor: < >