QUEENSLAND COURTS

# OFFICE OF THE STATE CORONER

# FINDINGS OF INQUEST

CITATION: **Inquest into the death of Jack Wallace MacNicol**

TITLE OF COURT: Coroner's Court

JURISDICTION: Cairns

FILE NO(s): 2007/115

DELIVERED ON: 29 June 2012

DELIVERED AT: Cairns

HEARING DATE(s): 13/10/2011 – 13/10/2011, Cairns; 16/11/2011 – 16/11/2011, Cairns; 2811/2011 – 29/11/2011, Townsville

FINDINGS OF: Kevin Priestly, Coroner

CATCHWORDS: CORONERS: Inquest – Fatal head injury while mustering cattle on motorcycle - not wearing helmet - adequacy of regulatory standards

REPRESENTATION:

| | |
|---|---|
| Counsel Assisting: | Stephanie Williams |
| For parents | Mr Tony Glynn, SC |

## Introduction

It is important that the reader understand the statutory role of Coroner as well as the powers and limitations that affect how the Coroner discharges that role.

A Coroner is required to make findings as to how a person died, when the person died, where the person died and what caused the person to die.

A Coroner is precluded from including in his 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)).

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.

It is also important that I acknowledge from the outset that this matter involves the death of a teenager who was working on a family owned and operated cattle station. Members of the family, extended family and workers were mustering cattle when he fell from his motorbike sustaining a fatal head injury. He was not wearing a helmet. His was a tragic death in the context of family life in a rural setting where members from a young age fully participate in all aspects of work. As will become evident, the advisability of wearing helmets while mustering on motorbikes has been a vexed question within the rural sector with strong and sincerely held views opposing the requirement on safety grounds. The purpose of convening this inquest was to review the current regulatory framework relevant to the wearing of helmets on motorbikes in the rural sector and identify any opportunities for improvement.

## Background

Jack Wallace MacNicol was 15 years of age and lived with his parents Andrew and Gillian MacNicol, together with two siblings, on a cattle station known as Birralee Station. The property is located about 20 kms south of Collinsville on the Bowen River.

## Incident

On 13 December 2007 mustering was underway on Birralee Station. Sometime after lunch mustering commenced at the 6 Mile River Paddock. A herd of about 600 head were moved off a turkey's nest (a little dam for water) and down a pipeline towards a trough about 1km away. There were a number of people involved in mustering, including Mr Whelan, Senior Station Hand (riding a motorbike), Mr Dan Smith and his two sons (riding motorbikes), Gordon MacNicol (riding a motorbike). Jack was riding a 250cc motorbike. All were in communication via two way radios. A Robinson R22 helicopter piloted by Mr Pritchard was also working the stock. Two of the five persons riding motorbikes were wearing helmets while mustering. The country in the area where the mustering was taking place is described by Mr Prichard as semi-timbered but well grassed with small undulating hills.

As the cattle were mustered down the pipeline, Jack and a co-worker were waiting at the trough to receive the cattle. The main part of the mob had reached the trough

and there were some stragglers at the turkey nest and a few along the pipeline. As the tail of the mob moved from the turkey nest, Mr Prichard saw a bull to the right hand side of the mob. The bull stopped and seemed reluctant to join the mob. Mr Prichard called Jack on the 2 way radio and advised him about the bull. Jack asked Mr Prichard if he should go back and get the bull. Mr Prichard advised that he should only return for the bull if he could do so without disturbing the mob on the pipeline.

Jack left the watering point at approximately 1.45 pm and, riding on his 250cc Suzuki trail bike, commenced heading back towards the bull. He started riding down an old road beside the pipeline in 6 Mile Paddock. The road was pitted with potholes and washouts. Jack was not wearing a helmet.

Mr Prichard described looking away briefly to locate the bull. Upon looking back, he saw Jack's bike laying on the ground and then spotted Jack. Mr Prichard landed the helicopter and simultaneously radioed Mr Whelan advising that Jack had had a "buster". Mr Prichard estimated that Jack had ridden his bike into a part of the road which had dropped off 12 to 14 inches. Mr Smith, who subsequently attended the scene to assist Mr Prichard, estimated a pothole of approximately one (1) foot in depth which he considered Jack had hit before losing control of the motorbike.

**Emergency Response and Medical Narrative**

Upon landing the helicopter, Mr Prichard went to Jack who was lying on his back. He noticed Jack's lips were blue and did not see any visible injuries. Jacks face was covered in dirt.
Mr Prichard could not feel a neck pulse and rolled Jack onto his side, feeling that the back of Jack's head was soft. Blood was running from Jack's nose and one ear. Mr Prichard cleared Jack's airway of "muck" he described "like vomit". Mr Whelan arrived on scene and assisted Mr Prichard to roll Jack onto his back, lift his legs and remove the motorbike from under him. CPR was started. Mr Smith arrived at the scene and then departed to a locality for better reception to make the call to emergency services. Mr Prichard estimated a period of less than 10 minutes before Jack's pulse returned. CPR was continued until QAS paramedics arrived.

QAS received a phone call at 1:56 pm and dispatched a driver and two paramedics to Birralee Station. Paramedics arrived on scene at 2:17 pm. Upon examination Jack was found to have a carotid pulse. Paramedics Simon Dickens and Gregory Clarke checked Jack's airway and found it to be clear of vomit or foreign matter. Mr Clark ascertained that Jack was unable to breathe without assistance. Officers took over manual ventilation, applied a cervical collar and a cardiac monitor. Mr Clarke subsequently applied a Laryngeal Mask Airway to Jack – observing no complications, resistance, vomit or obstructions in the process.

Paramedics observed engorged neck veins, a graze to the right shoulder blade, a discharge from the right ear and general distension to the abdomen. No other obvious injuries were observed.

QAS departed for Collinsville hospital at 2:29 pm. During transportation, paramedics suctioned blood from Jack's nose and upper airway. Jack arrived at Collinsville Hospital at 3.07 pm.

Jack was unconscious on arrival at Collinsville Hospital. Dr Thet Aung noted Jack's blood pressure was low and his heart rate indicated he had a circulation problem. His pupils were fixed and dilated at approximately 5mm in diameter. An examination of Jack's abdomen indicated an internal organ injury. An intravenous cannula was inserted into Jack's arm and he was administered one litre of saline. Blood tests revealed Jack was in a respiratory acidotic condition. At 3:25 pm Jack was handed into the care of the Careflight Medical Services Retrieval Physician, Dr Siva Sivanujan.

Dr Sivanujan assessed Jack to have sustained a head injury, with signs of fracture of the base of the skull and a probable intra abdominal injury. Jack was bleeding from the nose and right ear, and had blood in his mouth. Dr Sivanujan assessed a Glasgow coma score of 3 out of 15. Jack's oxygenation did not appear normal and a rapid sequence induction procedure was carried out. The procedure took two attempts, with the size 8 endo-tracheal tube being too large and subsequently substituted for a smaller size. Intravenous fluids were continued in an attempt to maintain Jack's blood pressure and ameliorate the signs of raised intracranial pressure. Jack was air lifted to The Townsville Hospital and deep sedation was achieved and maintained en route.

Jack arrived at the Townsville Hospital at approximately 5.33 pm. He was assessed in the Emergency Department and noted to require 100% oxygen and mechanical ventilation. He required ongoing Noradrenaline infusion to prevent low blood pressure. A CT scan of Jack's brain noted evidence of a severe extensive brain injury and base of skull fracture. Other injuries included a small piece of bone detached from the 7$^{th}$ cervical vertebra, partial collapse of the lungs on both sides and a ruptured duodenum (an injury commonly seen with handle bar impacts to the abdomen). Dr Reno Rossato, Consultant Neurosurgeon, determined that neurosurgical intervention was not going improve Jack's condition and he was admitted to the Intensive Care Ward at 8:00 pm.

Intensive care continued into 14 December 2007, without Jack's condition improving. Neuroprotective measures were maintained. It was considered that Jack would fulfil brain death criteria if formal testing was carried out.

A brain visibility study was performed on Jack at 12.45 pm on 15 December 2007. The scan confirmed brain death and Jack was pronounced deceased at 1.45 pm. Jack's heart, lungs, liver and kidneys were then harvested and donated, in accordance with the wishes of his family.

**Post Mortem Examination**

On 18 December 2012 Professor David Williams conducted a post mortem examination limited to an external examination and internal examination of the cranial cavity. He concluded that Jack died due to head injury due to a quad bike accident. Although the autopsy report refers to a 'quad' bike accident, the reference to a quad is incorrect and will be cured in these findings which the Registrar of Births Deaths and Marriages is obliged to accept. Examination of the cranium revealed bruising covering an area of 5.4cm across just behind the left ear, an 8.7cm fracture of the left parietal bone extending into the occipital bone of the posterior cranial fossa heading towards the internal acoustic meatus, and haemorrhage into the left middle ear. The

brain showed extensive subarachnoid haemorrhage associated with contusions to the right frontal and right temporal poles.

## Existing Regulatory Framework

At the time of this death, the Workplace Health and Safety Act 1995 applied. It imposed a general safety obligation on persons conducting a business to ensure workplace health and safety of workers and others. The new national Work Health and Safety Act 2011 commenced on 1 January 2011 and impose similar obligations. The 1995 Act was supported by Codes of Practice, two of which made reference to the use of motorbikes on rural properties – the Rural Plant Code of Practice 2004 and the Children and Young Workers Code of Practice 2006. It was reported that the Codes of Practice will continue in operation under the 2011 Act until national equivalent codes are developed.

As to the manner of discharge of the general safety obligation where there exists a relevant Code of Practice, section 26(3) of the 1995 Act provided:

> "If a code of practice states a way of managing exposure to a risk, a person discharges the person's workplace health and safety obligation for exposure to the risk only by—
> (a) adopting and following a stated way that manages exposure to the risk; or
> (b) doing all of the following—
> (i) adopting and following another way that gives the same level of protection against the risk;
> (ii) taking reasonable precautions;
> (iii) exercising proper diligence."

The Rural Plant Code of Practice 2004 did not specify any requirement about personal protective equipment for use when operating a motorbike.

The Children and Young Workers Code of Practice 2006 is directed at providing practical advice about ways to manage health and safety at workplaces where children and young workers are likely to be present. The Code provides advice about the operation of farm bikes and specifically states that 'owners and managers of rural workplaces should ensure riders wear appropriate personal protective equipment such as helmets, goggles, gloves, enclosed footwear and clothing that covers both arms and legs when operating an ATV (also known as quad bikes) or farm bike'.

## Workplace Health and Safety Investigation and Administrative Action

Inspector Angela Pappin of Workplace Health and Safety investigated the circumstances of the incident. On 18 January 2008, she issued a prohibition notice to MacNicol Pastoral Holdings directing it to stop allowing workers to perform high speed work, including mustering on motorbikes without wearing approved helmets. By application dated 1 February 2008 MacNicol Pastoral Holdings sought a review of the decision to issue the prohibition notice. By letter dated 25 February 2008, Mr Gary Newman, Regional Manager, Workplace Health and Safety Queensland

notified MacNicol Holdings that he had considered its application and decided to rescind the prohibition notice. That was not the end of the matter.

On 10 October 2008 Mr Dean Coggins, Regional Investigations Manager, Workplace Health and Safety Queensland, issued an improvement notice to MacNicol Pastoral Holdings asserting:

- Workers were performing work including mustering on motorbikes without the use of any protective headwear (i.e. helmets);
- To ensure the risk of injury to workers was minimised the employer must ensure suitable protective headwear (i.e. helmets) are supplied and worn by those operating such plant; and
- Guidance may be obtained from The Children and Young Workers Code of Practice 2006 and or Rural Plant Code of Practice 2004, both of which are supplied with this notice.

By application dated 28 October 2008 MacNicol Pastoral Holdings sought a review of the decision to issue the improvement notice.

By letter dated 21 November 2008, Mr Chris Coxon, Acting Regional Manager, Workplace Health and Safety Queensland notified MacNicol Pastoral Holdings that he had considered the application and decided to uphold the decision to issue the improvement notice.

Although many issues arose about the validity and merits of the administrative action taken by Workplace Health and Safety, there are only a couple of aspects relevant to my findings.

Throughout its submissions in the review process and in the hearing at inquest, MacNicol Pastoral Holdings asserted that the dangers associated with wearing of helmets while mustering are greater than not wearing a helmet. MacNicol Pastoral Holdings advanced the following considerations:

- Dust and debris is trapped inside the helmet affecting concentration;
- Vision is impaired, particularly peripheral vision which is important in monitoring movement of cattle from behind and to the sides;
- Hearing is impaired and already competes with noise generated by cattle, helicopter, bike and communications;
- Heat is intensified, contributing to accelerated fatigue and increased risk of heat related illness;
- Additional weight of the helmet contributes to muscular fatigue about the neck and shoulders;
- Radio communication is not possible; and
- The dynamic and landscape of mustering is different from open road conditions.

MacNicol Pastoral Holdings asserted it complied with the requirements of the Workplace Health and Safety legislation to ensure the workplace health and safety of its workers by considering these factors in assessing the risk of head injury and the possibility of a helmet as a control measure, concluding there were greater dangers in wearing the helmet. Further, MacNicol Pastoral Holdings relied on other control measures to mitigate the risk of head injury, including:

- Staff induction on starting work;

- Supervision of staff while riding to ensure motorbikes are ridden within the rider's limits;
- The use of a helicopter to muster and pick up cattle that have strayed;
- Riders are instructed not to cover every point in the paddock and rely on the helicopter to pick up cattle that have strayed;
- Staff are fitted with two way radios for constant communication;
- The helicopter pilot provides support to ground staff, monitoring and reporting movement of stock;
- Larrikinism is not tolerated and policed accordingly;
- Bikes are well maintained; and
- Mustering courses are assigned according to rider's ability and experience.

MacNicol Pastoral Holdings relied on the absence of any like incidents on its property and that of neighbours to demonstrate that the industry practices it used reduced risk to an acceptable level. In support of the factors above, MacNicol Pastoral Holdings provided statements and letters from experienced industry professionals.

One of the flaws in Mr Newman's review of the decision to issue the prohibition notice was the failure to consider the requirement in the Child and Young Workers Code of Practice 2006 for the riders of farm bikes to wear appropriate personal protective equipment such as helmets. He also appeared to give insufficient weight to the general advisory requirement in the Rural Plant Industry Code of Practice 2004 to 'follow manufacturer's instructions' and in respect of All Terrain Vehicles, helmets should always be worn. Manufactures of motorcycles used for cattle mustering reportedly recommend use of helmets. During evidence at the hearing, Mr Newman conceded he was unaware of the existence of the Child and Young Workers Code of Practice 2006 when considering his decision. It is clear from my review of the submissions to Mr Newman and the reasons for his decision that Mr Newman was persuaded that the prohibition notice was discriminatory in that other cattle properties would not be subject to the same requirement. Presumably, this reasoning partly arose from Mr Newman being unaware of the Child and Young Workers Code of Practice 2006 and the thought that the prohibition was exceeding the bounds of then current regulatory standards.

To my mind, this supports the need for a clear regulatory standard of universal application by regulators, whether inspectors, investigators or managers. It would also assist those whom are expected to comply with a standard.

**Advisability of Wearing Helmets**

Mr Whelan gave evidence that he had returned to work at Birralee Station about 12 months before the incident. He started work at Birralee earlier in his career, when he was 'green' to working cattle. All of the mustering was then done on horseback. Mr Whelan left Birralee Station and gained experience on other cattle properties. On his return, most of the mustering was done on motorbikes, usually trail-bikes of no greater then 250cc. The riders were assisted by helicopters. No-one wore helmets. Mr Whelan told the court that no-one wanted to wear a helmet because of the heat and weight. He said you're always turning your head and it's not good for your neck after a while. He also reported a loss of peripheral vision and hearing. He considered he was at greater risk from cattle by reason of these limitations. He only started wearing helmets when Workplace Health and Safety made it mandatory at Birralee.

Mr Whelan reported the country at Birralee could be flat pasture as well as rough ground with rocks and scrub. While the country was savannah like with lots of timber on the ground, he generally followed the cattle pads so he could see the timber.

Mr Whelan also performed other duties on a motorbike such as checking fencing and water. It did not matter what he was doing on a motorbike or how rough the country was, he did not wear a helmet. Mr Whelan acknowledged that he had come off a motorbike a few times but not suffered any serious injury.

Daniel Edwin Smith gave evidence that he managed another part of Birralee Station and had done so for about 6 years. He said he ran about 4 - 5,000 cattle and was involved daily in shifting them on his quad bike. Mr Smith did not start wearing a helmet until Jacks death. Mr Smith reported growing up on his parent's cattle property. In those days, all mustering was done by horse and no-one wore a helmet. He made the point that properties were much smaller then and managing stock by horse and on foot was possible. Mr Smith reported that the change in his attitude to wearing a helmet came about as a matter of personal choice. He looks after 30,000 acres and often leaves home in the morning, returning late in the afternoon. He works alone and is on the bike most of the day. He said it was just another risk he didn't want to take after Jack's death. Mr Smith acknowledged he carried a radio and mobile phone but still considered there was a risk he might fall off and knock his head, in which event he couldn't "call any bugger".

Mr Smith reported no significant changes to how mustering operations are conducted following introduction of the requirement to wear helmets other than a change to the type of hand pieces used on the radios carried by those mustering.

Mr Smith agreed with suggestions put to him that graziers preferred not to wear helmets due to view it was more dangerous when working with stock because of the loss of peripheral vision and reduced hearing.

There are a number of important matters in the evidence that must be acknowledged:

- There were helmets available to workers at Birralee Station to wear if they chose to do so;
- The choice about whether to wear a helmet was left to each worker;
- None of the workers wanted to wear helmets because of the limitations on hearing and peripheral vision already discussed.

Mr MacNicol also gave evidence to the effect that he didn't require workers to wear helmets and believed that if he did so require, it would be impossible to enforce once workers were out of sight. He also was concerned that workers who had a strong preference against wearing helmets would chose to work elsewhere if he made it a requirement of employment on Birralee Station.

To my mind, this latter concern means that any legislative requirement to wear a helmet must be universally and consistently enforced.

In its report to this hearing (exhibit 24), Workplace Health and Safety Qld reported:

> "Workplace Health and Safety Queensland (WHSQ) endorses and strongly recommends the use of helmets when operating a motorbike in a rural workplace. The Australian Centre for Agricultural Health and Safety (ACAHS)

and other leading rural occupational health and safety research organisations also strongly advocate the mandatory wearing of helmets on motorbikes.

Whilst WHSQ has not carried out specific research into the effectiveness of helmets in minimising the risk of head injuries associated with motorbike incidents, the wearing of an approved helmet is generally accepted as an appropriate risk control."

**Recent Regulatory Developments**

At the time of this hearing, Workplace Health and Safety Qld have published a draft for comment of amendments to the Rural Plant Code of Practice 2004. Relevant to the issue of wearing of helmets when using a motorbike in a rural workplace, the draft acknowledges the various uses made of motorbikes in that setting including mustering and imposes a requirement that an approved helmet be worn. Further, the risk assessment process is outlined as well as a number of risk controls in addition to the wearing of an approved helmet. The public consultation period has recently expired.

**Comments**

While I acknowledge that Workplace Health and Safety had embarked on major programs for raising awareness about the need to wear helmets on motorbikes in the rural sector, I was concerned about the number of reported deaths associated with the failure to wear a helmet. The advisory nature of the requirement for young rural workers to wear helmets did not seem to be well appreciated within the sector. Mr Newman, a Manager within Workplace Health and Safety was not aware of the requirement. Ultimately, it is for Workplace Health and Safety (now Fair and Safe Work Qld) to take a leadership position as regulator to determine whether it is advisable to wear helmets and regulate accordingly.

While I understand the strongly held views to the contrary, this argument reminds me about the debate that occurred decades ago about the introduction of mandatory wearing of safety belts in cars. The risks associated with the wearing of helmets do not appear to outweigh the risks from not wearing helmets and there is greater opportunity to mitigate those limitations through altered work practices.

I have reviewed the proposed amendments to the Rural Plant Code of Practice 2004 and having regard to the circumstances of this tragedy, the regulatory confusion afterwards in attempting to enforce a particular view, I have no hesitation in recommending promulgation of those amendments.

By way of comment pursuant to section 46 of the Coroners Act 2003, I recommend the introduction into law of the proposed amendments to Rural Plant Code of Practice 2004 requiring the wearing of helmets on motorbikes.