

CERTIFICATE OF FINDINGS**Section 94, Coroners Act 2006****IN THE MATTER of John Roderick MCINNES**

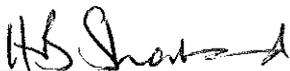
The Secretary, Ministry of Justice, Wellington

As the Coroner conducting the inquiry into the death of the deceased, after considering all the evidence admitted to date for its purposes, and in the light of the purposes stated in section 57 of the Coroners Act 2006, I make the following findings:

Full Name of deceased: John Roderick MCINNES
Late of: 6 Jubilee Road
RD 1
Hikurangi
Occupation: Farmer
Sex: Male
Date of Birth: 03 May 1946
Place of Death: Otonga-Marua Road
RD 1
Hikurangi
New Zealand
Date of Death: 25 September 2010
Cause(s) of Death
(a). Direct cause: Mechanical Asphyxia from Quad Bike Accident
(b). Antecedent cause (if known):
(c). Underlying condition (if known):
(d). Other significant conditions contributing to death, but not related to disease or condition causing it (if known):
Circumstances of death (if known):

*Those findings, and my reasons for making them, are also set out in my written findings dated: 23 October 2013.

Signed at Whangarei on 29th day of October 2013.



Coroner H Brandt Shortland

UNDER THE CORONERS ACT 2006

AND

IN THE MATTER OF An inquiry into the death of
JOHN RODERICK MCINNES

Date of Findings: 23 October 2013

FINDINGS OF CORONER H B SHORTLAND

Introduction

[1] At approximately 8.10 pm on 25 September 2010, John McInnes was located deceased underneath his quad bike on his farm at Jubilee Road, Hikurangi. His son-in-law Michael Brown discovered him lying face down on the hilly slope in the cemetery block of the farm. The bike was taken off him and despite attempts to revive him he was deceased.

[2] Mr McInnes had arrived home at about 5.30 pm after working on his farm all day. He said to his wife that he was going to spray the cemetery block paddocks for carrot weed. He went out to his Yamaha Big Bear quad bike and filled the spray unit before coming back inside to watch the news.

[3] At 6.30 pm he left for the cemetery block paddocks. This particular block is best described as hilly with a slope of approximately 30 degrees. It's surface is uneven with ruts created over time by walking stock.

[4] Some time between 6.30 pm and 8.10 pm Mr McInnes has lost control of his quad bike whilst spraying on a hilly slope. It appears Mr McInnes has attempted to steer the bike up the hill in an attempt to manage the uneven surfaces (ruts).

[5] The bike has rolled 180 degrees landing on top of Mr McInnes with his head facing up the hill, his face in the ground and the quad bike coming to rest on his back.

[6] The inquest focussed on the circumstances leading to the death.

[7] From the outset of this inquest the Court acknowledges the McInnes family and their friends and support persons for the loss of Mr McInnes.

[8] Hayley Brown (daughter of Mr McInnes) gave evidence and an opinion as to how her father lost control of the quad bike ending up in the position in which he was found in. She was with her husband, Mr Michael Brown, when Mr McInnes was discovered.

[9] This inquest is part of a series of hearings which the Coronial Jurisdiction will carefully examine the circumstances surrounding the individual deaths, but more importantly to focus on what recommendations and comments can be considered in advancing the safety of quad bike use in New Zealand.

The Law

[10] Section 57 of the Coroners Act 2006 sets out the purpose of an inquiry and the legal frame work for an inquest.

57 Purposes of inquiries

- (1) A coroner opens and conducts an inquiry (including any related inquest) for the 3 purposes stated in this section, and not to determine civil, criminal, or disciplinary liability.
- (2) The first purpose is to establish, so far as possible,—
 - (a) that a person has died; and
 - (b) the person's identity; and
 - (c) when and where the person died; and
 - (d) the causes of the death; and

- (e) the circumstances of the death.
- (3) The second purpose is to make specified recommendations or comments (as defined in section 9) that, in the coroner's opinion, may, if drawn to public attention, reduce the chances of the occurrence of other deaths in circumstances similar to those in which the death occurred.
- (4) The third purpose is to determine whether the public interest would be served by the death being investigated by other investigating authorities in the performance or exercise of their functions, powers, or duties, and to refer the death to them if satisfied that the public interest would be served by their investigating it in the performance or exercise of their functions, powers, or duties.

[11] The main focus of this inquest is the circumstances of the death. Further recommendations arising from this inquiry will hopefully prove to be another positive step toward making the use of quad bikes safer.

The facts

[12] John Roderick McInnes also known as Jack McInnes born 3 May 1946. He was 64 years of age at the time of his unfortunate death. He had farmed in the Marua district for 31 years. The property in which this tragedy took place was located at 910 Marua Road, Hikurangi. The property in question contained a cemetery block surrounding grassland paddocks of approximately five acres in total. At the time Mr McInnes was leasing this block of land for the purposes of grazing his stock.

[13] On 25 September 2010, Mr McInnes had spent most of the day involved in farming responsibilities. He returned home at about 5.30 pm and said to his wife that he needed to spray the cemetery paddocks for carrot weed.

[14] Mr McInnes owned a Yamaha Big Bear 4x4 quad motor bike. At the rear of the bike was a mounted spray unit a C-Dax 100 litre model with a collapsible spray boom attached.

[15] Mr McInnes filled the spray unit then came inside and watched the 6 o'clock news before informing his wife that he was off to spray the cemetery block paddock.

On the front of the quad bike he had a mounted fish bin in which he carried extra fluid.

[16] Despite being an experienced weed sprayer he had not sprayed on this block before with its 30 degree gradient slope.

[17] Mr McInnes had owned the quad bike for over 10 years and was considered very conscientious about ensuring that his equipment being in good condition. Any machinery he engaged and used on his farm would function and work appropriately. His family described him as meticulous about servicing his bike and his spray unit.

[18] He was considered to be an experienced quad bike rider although he had not attended any formal training or attended active riding courses. Nevertheless, those that knew him in his farming community said he was an experienced rider of a quad bike. Mr McInnes did his own maintenance on his bike and as previously indicated kept everything in good working order.

[19] On the evening of 25 September 2010 Mr McInnes was to join his wife; his daughter and son-in-law for dinner. As it was, he did not return for dinner and therefore his daughter Hayley and son-in-law Michael Brown went looking for him at about 7.55 pm. It was dark at that time so they focussed on looking for quad bike lights in the paddock as an indicator he was still working.

[20] Mr Brown said it was dark at the time as they made their way to the cemetery block. He parked at the top of the road and fully expected to see lights from the quad bike. Given there was no such sign he then jumped over the fence into the paddock to look for Mr McInnes.

[21] He found Jack McInnes face down on the ground with his head pointing up the hill. The quad bike was upside down and on top of half his body.

[22] Mr Brown said as follows:

“I think the fish bin was in contact with his back. The bin was twisted, the quad engine was not going and the spray unit was still going. “

[23] At that point Mr Brown grabbed the front of the quad bike and lifted it up and away from Mr McInnes' body. The bike rolled all the way down the hill.

[24] The boom then detached from the quad bike about half way down the hill.

[25] Mr Brown said that there was no signs of life and tried to sit him up before laying him on his back.

[26] Hayley Brown had gone to their neighbour Merv Rusk to ring the ambulance. Mr Rusk realising the seriousness of the situation provided what support he could and attended the scene and tried to resuscitate Mr McInnes without success.

[27] Mr Brown's view suggested Jack McInnes had sprayed most of the paddock before dealing with the steeper slope. The spray unit did not have baffles within it and therefore the liquid would move freely around the housing as the quad bike made its way around the paddock.

[28] Mr Brown further noticed that the quad bike was in a low ratio, second gear, which is considered very slow.

[29] What was most unusual was the fact that Mr McInnes was found face down in the slope of the hill with his head pointing upwards and the bike on top of him.

[30] Emergency services were called including the police. Mr McInnes did not respond to resuscitation and was declared dead at the scene.

[31] The quad bike was seized and then transported to secure storage for further examination.

Post Mortem and Toxicology reports

[32] A post mortem examination was carried out on 26 September 2010 by Dr Emmanuel Lucio.

[33] Dr Lucio concluded that the direct cause of death was from mechanical asphyxia as a result of the quad bike falling on top of Mr McInnes.

[34] A standard toxicology test was carried out by ESR including the testing for alcohol; illicit drugs or medications that may have altered Mr McInnes' ability to ride the quad bike. There were no such traces.

Department of Labour

[35] Mr Phillip Bailey, Health and Safety inspector with the Department of Labour attended the accident scene on 27 September 2010.

[36] Pursuant to s 17 Health and Safety in Employment Act 1992 Mr Bailey investigated the circumstances of Mr McInnes' death.

[37] In his report he identified several factors that had a contributing input into his untimely death. Those included the gradient of the hill measured with a slope meter showing approximately a 30 degree slope. In addition the surface was uneven as a result of stock walking the paddocks creating the ruts.

[38] Mr Bailey concluded from observing the wheel tracks on the slope that Mr McInnes has attempted to steer the bike up to the left and up the hill slightly to avoid the uneven surface (ruts). It was most likely the quad bike was starting to slip and lose stability.

[39] Somewhere in that action Mr McInnes has come off the bike and the bike has fallen on him down that slope.

[40] The bike was taken for an independent examination by a VTNZ vehicle inspector, Mr Lindon Griffiths in Whangarei. The report confirmed overall the vehicle was in good condition. Of particular importance, confirmation that both the steering and the suspension of the bike operated correctly.

[41] Mr Griffiths concluded there were no mechanical issues.

[42] The question arose as to whether the C-Dax 100 litre spray unit contributed to the cause of the death? This was a unit that was fitted around the back of the bike seat. Mr McInnes sitting in the normal riding position was cocooned by the mounted spray unit and two collapsible spray booms on the left and right hand side of the bike. The spray unit was operated by an independent motor.

[43] When Mr. Bailey went to inspect the vehicle he was unable to ascertain how much liquid was still in the containers. He was able to ascertain that on the front of the quad bike contained a fish bin that had a 20 litre container full of spray fluid and that was used to help weigh down the front of the bike.

[44] At the time Mr McInnes was not wearing a protective helmet.

[45] In concluding his report Mr Bailey found the main contributing factor to this death was the terrain.

[46] Mr Bailey says as follows:

“Mr McInnes was in the process of boom spraying a hill that he had not attempted to boom spray before. He was travelling across the face of the hill which was rather steep in places and had an uneven surface due to cattle ruts.

It appears by the wheel tracks present that he has attempted to steer up the hill slightly and over these uneven surfaces (known as ruts).

The quad has rolled over 180 degrees, ejecting Mr McInnes who has landed face down on the ground with the bike coming to stop, landing on top of him.

Following the incident the ATV was inspected by a VTNZ vehicle inspector.

...it does not appear mechanical failure of the ATV was a contributing factor in this accident.”

[47] Mr Bailey found the bike was in good condition and did not in any way contribute to this death.

Hayley Brown

[48] Hayley Brown gave evidence at inquest and considered the situation and the circumstances leading to her father's death.

[49] She had time to reflect upon the scene and she was there with her husband when they found her father and it worked through her mind that reconstruction of the

events taking into consideration her father's meticulous views about keeping his machinery in good operating order and trying to look after his equipment.

[50] She thought it was very odd the way her father had been found, and the fact that he was trapped under the bike facing uphill.

[51] She noted that when her husband took the bike off her father the bike then rolled instantly all the way down to the bottom of the hill.

[52] It was her view that when her father was spraying the paddock the quad bike must have started to become unstable, therefore, he would have got off the bike and tried to hold the bike steady on the slope.

[53] As she said, knowing her father, he was meticulous about his equipment and wanted to ensure that nothing would happen to it.

[54] Therefore, she believes that whilst he was trying to hold the bike steady on the slope he has most probably lost his footing, fallen face down and the bike rolling on top of him.

[55] That would explain the unusual position in which he was found by Michael Brown and observed by Merv Rusk who followed.

[56] In summary, Mr. McInnes has got off the bike to try and steady it and maintain its stability on the slope. It has become too much for him and he has either lost his footing or his legs have given way to the weight of the bike and has fallen directly to the ground face down and the bike has come instantaneously over him and stayed there in that position.

[57] Hayley Brown made a profound comment about her father in that if had he observed a more self preservation approach to his safety he may still be alive today, although he may have his legs crushed or suffered some form of injury, nevertheless, he may well have been alive today.

Discussion

[58] All the evidence provided including that of Mr Rusk indicates that Mr McInnes was an experienced farmer and had been using a quad bike for some

years. He owned this bike for over 10 years and kept it in excellent condition. He would do his own maintenance and ensure the bike was in good working order.

[59] On this particular evening he was conscientious about ensuring the spraying responsibilities were carried out and had organised himself to spray the cemetery block paddocks which he had not sprayed before.

[60] He set up his bike including the C-Dax 100 spray model which is mounted behind him followed by two booms on the left and right hand side of him. It had the effect of cocooning the rider.

[61] Constable Warren Bunn indicated it was fairly difficult to get in and out of that arrangement for an ordinary person.

[62] In my view, Mr McInnes knew his bike well and obviously was comfortable with the arrangement. He had owned the spray unit for over six years. He also didn't wear a helmet. Would this have made a difference? Possibly not.

[63] Somewhere between 6.30 pm and 8.10 pm when he was found he has lost control of his quad bike on the slope below Marua Road. The independent evidence of Mr Griffiths confirms there were no mechanical defects with respect to the quad bike. However, the terrain of the paddock as considered by the Department of Labour inspector, Mr Bailey' as a contributing factor given the ruts on the slope undermined the stability of the bike during the spraying operation.

[64] Hayley Brown in her thoughtful consideration has more than likely explained her father's actions leading to his ultimate demise.

[65] I agree with her view, It is more than likely the bike was starting to lose its stability on the hill and Mr McInnes has got off his bike to try and stabilise it. He has somehow lost his footing which has caused him to fall to the ground, face first with his head facing up the hill and the quad bike has followed crushing him where he was found in that position by Michael Brown.

[66] Given the unusual position in which he was found this seems the most feasible explanation.

[67] In my view, and in considering the dynamics of the bike, the slope and the riding position that Mr McInnes would have adopted, had the bike lost stability and started to roll down the hill then Mr McInnes would have been found in a totally different position most likely.

Formal finding

[68] I am therefore satisfied on the balance of probabilities that John Roderick McInnes also known as Jack McInnes, 64 years of age at the time of his unfortunate death has died as a direct result of mechanical asphyxiation when his Yamaha Big Bear quad bike 4x4 has rolled on top of him and crushed him whilst he was spraying the cemetery block paddocks.

[69] This was a paddock he had not sprayed before and the 30 degree slope and the uneven surface have contributed to the instability of the quad bike which has crushed Mr McInnes.

[70] The circumstances of the death have been outlined in this decision.

Quad Bike Issues - Final Comments

[71] I acknowledge the gathering of the expertise over 10 and 11 April 2013. This was a coming together of like-minded experts.

[72] I am grateful for the information and evidence provided by the cross section of expertise from the manufacturers and distribution representatives of the Motor Industry Association through to the farmers and agricultural industry leaders in health and safety. There were many other professionals and experienced leaders including educators and trainers with many years experience; academics and engineers who have provided their own source of independent research and information.

Lastly, I acknowledge the contribution of the Ministry of Business, Innovation & Employment ("MBIE" and formerly known as the Department of Labour) and the Accident Compensation Corporation ("ACC").

[73] At the end of the two day hearing I called for further submissions and received many from other knowledgeable individuals who were unable to attend

ranging from farmers, to health and safety consultants with expertise on farm machinery specifically the quad bike.

[74] I further acknowledge the overwhelming amount of information that has literally poured in relation to quad bike issues. That information forms the basis of these final comments.

[75] All these experts in my view had a common goal. Although they may have been from different sections of the spectrum of quad bike interest they unitedly wanted to advance the safer use of quad bikes in New Zealand ("NZ").

[76] There is a plethora of issues surrounding quad bikes. These issues are complex in nature and despite discussion and robust debate the issues remain complex without resolution in some respects.

[77] In the NZ context, the quad bike has been in use for over 40 years. The quad bike has been the modern horse for the New Zealand farmer. The tractor and the quad bike have carried the load for farmers for many years.

[78] The early predecessor of the quad bike was a three-wheeler bike which in very early terms proved to be a dangerous machine.

[79] Evident during the hearings were the reasons why quad bikes are so popular amongst farmers. They are versatile and provide many options for the modern-day farmer. They perform a multiple range of functions in relatively quick time and are perceived by farmers to be a cost-effective piece of machinery. They are responsive and considered efficient in terms of time management. They continue to bare heavy loads through towing trailers; carting spray units; and they have the distinct ability to go places where other machinery are perceived not to go.

[80] The quad bike maybe considered to be a farmer's best friend and their worst enemy.

[81] They have definite advantages over other machinery (tractors) and they equally have clear limitations. Various commentators state the humble quad bike is often pushed beyond its design capabilities. At inquest this comment was reiterated a number of times.

[82] I have observed from this inquest and the other hearings a farmer's safety is seriously compromised when the strict safety guidelines of a quad bike are compromised when used beyond their capability.

[83] Mr. John James, a professional trainer and educator of quad bikes and other machinery best described the quad bike as "Error intolerant". This is an apt description.

[84] These bikes are prone to rolling and tipping in a range of circumstances from riding at speed to going very slowly; over hilly slopes to undulated ground where the quad bike has been compromised in terms of its stability by the decision making process of the rider. This also gives rise to issues about design.

Manufacturers Views

[85] Manufacturers have been very clear about the strict parameters in terms of the maximum weight limits and the use of after-market attachments including purpose-built trailers and spray machines.

[86] However, the most debated issue is that of crush protection devices (CPDs) or roll over protection devices (ROPs).

[87] Quad bikes are known to have a high centre of gravity; a short and narrow wheelbase and have tyres on the bike that require accurate pressure levels. They also require a high level of maintenance to maintain efficiency.

[88] Mr Clive Hellyar and Mr David Crawford, the former CEO and current CEO respectively of the Motor Industry Association, confirmed in their collective evidence quad bikes are designed to be ridden actively. They require "active riding". Quad bikes are essentially a four-wheel motorbike which requires good maintenance and especially accurate tyre pressure at the correct psi levels. They endorsed the importance of wearing a helmet. The issue of helmets will be further discussed in this section.

[89] Mr. Crawford confirmed the fact quad bikes had limited scope in their abilities. This was reiterated further by Mr. Paul Stewart who over 40 years has

been a quad bike mechanic; a quad bike training manager; and has represented the New Zealand distributors of quad bikes.

[90] In his view the distributors of quad bikes have always taken the proactive approach to safe use and rider training of quad bikes as a priority. In his view active riding and rider training was an essential part of ensuring the safe operation of a quad bike. It also formed part of the after sale service.

[91] The quad bike is unique. There is no other bike like it with features like the throttle found on the right-hand control; a single seat; a hand-operated front brake lever and a hand-operated rear brake lever with a right-hand foot brake lever. The quad bike allows a rider to stand up in certain circumstances which lowers the centre of gravity.

[92] The design and shape allows a rider to be active in moving their body weight around the bike where it is required.

[93] Mr Stewart confirmed that quad bikes primarily were designed for the recreational market. Every quad bike user needed to understand the manufacturer's guidelines.

[94] I was satisfied during the gathering of information that New Zealand distributors are very thorough in their after sales service to clients.

[95] The primary sale from a distributor to the first user included active riding training; a thorough instruction of the operation manual; an understanding of the quad bike's capabilities; and the importance of wearing a helmet. After sale, the distributors would ensure that their purchaser (often a farmer) had a follow-up visit in terms of a review of the above

[96] Unfortunately, these inquests highlighted the need for similar training for users of quad bikes when they maybe the second, third or ninth owner of the same bike. When they are on-sold, unless it is through a dealer or distributor, the likelihood of the same instruction and training is extremely remote and probably zero. There was no evidence the five fatalities in these hearings had any level of similar training.

[97] The best example in NZ would be a weekend warrior purchasing a quad bike from the online "Trade Me Auction site" for the purpose of riding round their property or taking it to a beach with an expectation that all they had to do was turn the key and play with it until they could ride it properly. That is a most common scenario and a recipe for potential disaster.

[98] I reiterate Mr Stewart's final submission where he summed up what he thought was most important regarding quad bike use and that a quad bike requires a rider to make good decisions, to apply common sense and to realise that a quad bike has limitations. It is important to have good training to understand the reasons why the bike must be ridden actively and to adhere to the manufacturer's guidelines with the use of wearing a helmet would make for safer use overall.

Ministry of Business, Innovation & Employment

[99] Quad bike safety is part of the overall health and safety message in the agricultural sector.

[100] The sector is made up of a number of stakeholders all with a serious interest from health and safety; to efficient operation of the farming unit; and to policy making and oversight. The Ministry of Business, Innovation, and Employment (MBIE) drive the policy required to reduce injuries and fatalities around quad bike use.

[101] MBIE as a regulator has the role of enforcement and to prosecute where appropriate. I sense their preference would be to work side by side with end users in the sector as opposed to total enforcement. That is not to say that in some cases enforcement and prosecution maybe the only viable option.

[102] Part of their philosophy is not to coerce safer quad bike use by way of enforcement only. They rather encourage individuals to empower themselves to take personal accountability for their actions and those who they are responsible for. Therefore, the emphasis is on greater personal accountability for quad bike users.

[103] MBIE have been proactive in developing programmes to reduce fatalities and injuries overall.