QUEENSLAND COURTS

OFFICE OF THE STATE CORONER

FINDINGS OF INQUEST

CITATION:	**Inquest into the death of Gregory Peter HOARE**
TITLE OF COURT:	Coroners Court
JURISDICTION:	Brisbane
FILE NO(s):	2013/1646
DELIVERED ON:	26 September 2014
DELIVERED AT:	Brisbane
HEARING DATE(s):	20 May 2014, 6-8 &11-12 August 2014
FINDINGS OF:	John Lock, Deputy State Coroner
CATCHWORDS:	Coroners: inquest, quad bike accident

REPRESENTATION:

Counsel Assisting:	Mr P. De Waard, Office of State Coroner
Federal Chamber of Automotive Industries (FCAI):	Mr Dollar of Counsel I/B Norton Rose Fulbright
Workplace Health & Safety Queensland:	Mr K Parrott of Counsel I/B Crown Law
Mr & Mrs Hughes:	Mr A Girle of Sparke Helmore

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Introduction

Approximately 170 deaths over the past decade have occurred in Australia and New Zealand where Quad Bikes were involved. Most of these have occurred in a rural setting and the leading cause of death on farms in Queensland has some involvement with a quad bike.[1]

It is uncontroversial to say that a number of the statistical sources confirm that the majority of deaths occurred in the age group of 10 – 19 and a second highest age group for those over the age of 50.

Quad Bikes are essentially four wheeled motorbikes. They are motorised vehicles designed to travel on four low-pressure tires, having a seat designed to be straddled by the operator, and handlebars for steering control. They are used for both recreational purposes, either privately or in tourism, or for agricultural purposes. In Australia and New Zealand they are typically used in rural settings. They are utilised by search and rescue teams. In the United States of America they are also used in rural settings but the majority are used in a recreational setting.

Whatever may be said about their utility, they have become essential equipment on many farms. That being said, the evidence gathered during this multiple inquest raise many issues including the importance of active riding, good maintenance, use of correct tyre pressure, use of helmets, not allowing children to ride adult sized quad bikes, understanding the limitations of the vehicle and that tragic incidents can occur in quite benign conditions. The cases also emphasise the importance of riders making appropriate decisions.

Most standard quad bikes have no roll over protection system (ROPS). In broad terms, a ROPS is a cabin or roll bar structure on top of the quad bike, which incorporates a seatbelt to restrict movement outside the protective zone in the event of a roll over. Other possible protection mechanisms include Crush Protection Devices (CPD), which is a two bar or circular structure attached to the rear of the vehicle, which aims to provide a protective space in the event of a roll over, but without a seat belt. The utility of either device has been the subject of considerable debate.

Quad Bikes are referred to by the manufacturers and marketed to the public as 'All Terrain Vehicles' (ATVs). There has been some criticism of the use of that term.[2] In this inquest it is intended to adopt the term Quad Bike, but I do so conscious of both arguments and simply use the term in this phase of the inquest because it is one known better to the general public in Australia.

There has been considerable research, studies, reports and investigations carried out by varying persons and organisations considering how to reduce the number of quad bike related accidents. Although there is considerable agreement in relation to a number of issues, there has been robust debate between the main protagonists and considerable difficulty in reaching a consensus as to how to move forward on some of the more contentious issues.

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[1] Lisa Crockett, *National Coronial Information System Database Search.* The report was dated up to 1 January 2013 and noted there is a possibility of underreporting due to filing errors and currently open investigations. The deaths involved in this inquest would not be included. By the time of the inquest the figures estimated were closer to 195.

[2] Coroner John Olle, *Record of Investigation into Death of Thomas John Hutchings* (2009) State Coroner Victoria, case number 3067/02, p 4. Coroner HB Shortland, *An inquiry into the death of Carlos Mendoza,* Coroners Court New Zealand, CSU- 2010-WHG- 000185 at p 25

This inquest will examine the circumstances of the deaths of nine individuals. Findings in relation to each of those cases will be made in the first phase of this inquest. In the second phase I will hear evidence concerning what recommendations should be made to help prevent deaths occurring in similar circumstances in future.

The evidence

1. Mr Gregory Hoare was a 43 year old cattle property manager employed by Wentworth Cattle Co on Strathalbyn Station, Bogie, in Queensland. He resided on the station with his wife and children. He died on 9 May 2013 after colliding with a barbed wire gate whilst riding his quad bike for work purposes.

2. Mr Hoare had been mustering cattle the day before. On the evening of 8 May 2013 at about 6:30pm, a station hand, Mr James Simpson, moved the cattle into a paddock, ready for mustering the following day. He had checked that the fence lines and gates were all secure prior to moving the cattle into the paddock.

3. The following morning on 9 May 2013, the plan was for Mr Hoare to muster the cattle down a laneway to the end of the stock yard on his quad bike, where he would meet with two station hands, on horse back.

4. Mr Hoare departed his residence to the paddock on his quad bike at around 8:30am. His wife observed him wearing his full face motorbike helmet. He rode about 4km from his residence along a dirt track that ran parallel to the station's fence line to get to the entry gate to the paddock.

5. The two station hands, Mr William Burrell and Ms Sonya Shakespeare, had loaded their horses onto a truck and left Mr Hoare's residence just after him at around 8:30am. They drove to the opposite far end of the paddock about 3km away, taking a different route. The journey took them about 20 minutes. They unloaded the horses, rounded up some cattle at that location, and checked the fence lines of a different holding square, while waiting for Mr Hoare to move the cattle towards their location.

6. After becoming concerned that Mr Hoare was taking a long time, Mr Burrell attempted to contact him via a two way radio from the truck as he knew Mr Hoare always carried a radio with him on the quad bike. When there was no response, they rode their horses along the fence line towards the location Mr Hoare was supposed to be.

7. At some time around 10:00am, they found Mr Hoare's quad bike stationary near the barbed wire entry gate to the paddock. The quad bike motor was still running and in fifth gear. They found Mr Hoare lying on his side about 10m forward of the quad bike and gate. Although there was some reference to 40m in some documents I am satisfied this is an error.

8. Mr Burrell provided oral evidence at the inquest. He said that he went to the immediate aide of Mr Hoare, who was unresponsive and without a pulse. He noted that Mr Hoare had dry blood on his face and neck area and blood coming from his mouth. He observed that Mr Hoare's helmet was on the ground next to the barbed wire gate.

9. Ms Shakespeare used Mr Hoare's quad bike to ride back to the residence to raise the alarm between 10:45 and 11:00am. They did not use the radio on Mr Hoare's

quad bike as they knew Mr Hoare was deceased and his wife was at the other end of the radio. Prior to Ms Shakespeare riding the quad bike, they both checked the brakes and they were fully functional. Ms Shakespeare did not notice any problems with the functionality of the quad bike during her journey.

10. The Queensland Ambulance Service at Collinsville received the emergency phone call at 11:15am and arrived at the scene at approximately 12:26pm.

11. Police from the Collinsville Police Station attended the scene at approximately 2:15pm. Mr Hoare's body had not been moved other than him being placed on his back.

12. Police observed that the three strand barbed wire gate was on the ground and pushed back and partially around a tree in the direction of travel. The steel base of the gate's metal straining lever had been sheered from the weld points and was on the ground adjacent to the gate post. They observed injuries to Mr Hoare's neck and minor marks to the front and sides of his helmet.

13. The scene evidence suggested Mr Hoare rode his quad bike in fifth gear and in a relatively straight line into the closed barbed wire gate, without braking.

14. Other possibilities for the incident were raised by Mr Hoare's wife and the lawyers representing Wentworth Cattle Co, such as:

    a. that the gate was open at the time of the incident and Mr Hoare simply fell off his quad bike;

    b. that Mr Hoare suffered from a medical incident or was suffering from symptoms of haemochromatosis at the time of the incident; and

    c. that the dislocation of his larynx was due to impact with the road, not the barbed wire fence.

15. One possibility for the fallen gate, which had been sheared off by force was that it had been pushed over by cattle.

16. It was also noted by Wentworth Cattle Co's legal representative that Mr Hoare's clothing was not ripped, which would suggest that he did not come into contact with the barbed wire gate.

17. However, in oral evidence, Mr Burrell explained that there was no way the gate could have been knocked over by cattle in the direction that it was, as the cattle were on the other side of the gate and would have been coming from the opposite direction.

18. A medical incident due to haemochromatosis or otherwise has been ruled out by the autopsy report and a review of Mr Hoare's medical records.

19. A photo of Mr Hoare's neck area that had been taken at autopsy was also produced at the inquest by the FCU investigating officer, Senior Constable McConnel. The photo clearly shows a single puncture wound to Mr Hoare's neck, consistent with impact with a barb on the gate. Photos were not taken of Mr Hoare's shirt but it is probable the quad bike and handles took most of the force.

Autopsy results

20. On 13 May 2013, a forensic pathologist, Professor David Williams, performed an external and internal autopsy. The autopsy report was completed on 21 June 2013.

21. Professor Williams concluded that Mr Hoare died as a consequence of trauma to the area of the neck. The trauma caused the larynx to separate from the main airways linking the larynx to the lung. As a consequence, he inhaled large amounts of blood into his lungs.

22. Although Mr Hoare was known to have haemochromatosis, examination of his liver did not reveal any significant changes in the liver or pancreas, caused by haemochromatosis.

23. Toxicology testing was conducted. There were no drugs detected and only a slight trace of alcohol in Mr Hoare's urine, but this was insignificant.

24. Professor Williams concluded that the medical cause of death was:

    1(a). Dislocation of the larynx
    due to or as a consequence of:

    1(b). A quad bike accident.

Other significant conditions

    2. Haemochromatosis.

The investigation

25. Constable Kelly Westman and Senior Constable Craig McConnel from the Collinsville Police Station arrived at the scene at about 2:15pm on 9 May 2013 and observed QAS at the scene attending to Mr Hoare. Photos were taken of the scene and notebook statements taken from some witnesses. Senior Constable Westman submitted an undated Form 1 to the Coroner.

26. Senior Constable Craig McConnel, a part time forensic crash unit investigator from the Bowen Police Station, also attended the scene the next day. An accurate collision analysis of the scene was unable to be conducted due to contamination of the scene by rescuers

27. Senior Constable McConnel submitted his investigation report to the Coroner dated 18 August 2013.

28. Senior Constable McConnel's investigation was satisfactory in the circumstances. He agreed in oral evidence at the inquest that quad bike specific investigation training and a standardized template for quad bike investigations would be useful.

Quad bike details

29. The quad bike was a 2012 model Honda TRX420FM. Mr Hoare had purchased it new on 23 November 2012. It had 3,129km recorded on the odometer at the time of inspection.

30. There were no accessories or modifications to the quad bike. No CPD or ROPS had been installed.

Mechanical inspection

31. On 5 June 2013, a mechanical inspection was carried out on the quad bike at the Collinsville Police Station by a qualified vehicle inspector, Mr G.M. Ryan. Mr Ryan was of the opinion that the quad bike was free of any mechanical defects that would have contributed to the incident.

32. The brakes were hydraulic, disc front, single reservoir and were full of fluid. The quad bike had a full firm hand brake lever. The hand brakes on the handle bar were operating effectively, with no visible or apparent leaks within the hydraulic braking system.

33. The steering linkages were intact and operating, with no apparent excessive wear at any of the moveable joints. The electrics were intact and operating.

34. The only damage to the quad bike was a damaged brake master cylinder lid and scratches to the front bull bar, which would have been caused by the impact with the gate.

35. Tyre pressures were not taken at the scene.

36. It was discovered during the mechanical inspection that the two front tyres were deflated, even though they appeared inflated. The rear tyres also had minimum inflation pressure. The pressure of the tyres was not measured by the mechanical inspector but they were inflated to 5 psi by Mr Ryan. Mr Ryan noted in his report that the tyres were most likely deflated as a result of the quad bike sitting idle (for close to a month) since the incident. The tyres were in a satisfactory tread condition.

Terrain and conditions

37. The dirt track leading up to the barbed wire gate and beyond was straight and open with no impediments to view. The road was in good condition, with no large bumps, rocks or other obstacles.

38. Mr Burrell said that weather conditions on the day were fine but there may have been some clouds.

Personal Protection Equipment and Safety Issues

39. Mr Hoare's helmet was a full face motorcycle style helmet, which was compliant with Australian standards.

40. Mrs Hoare observed her husband wearing his helmet when he departed from their residence on the morning of the incident but was unsure whether he had fastened the strap. He was normally very insistent about such issues, especially with his children.

41. The station hands who found Mr Hoare at the scene stated that Mr Hoare's helmet was on the ground next to the barb wire gate. This suggests that although Mr Hoare was most likely wearing his helmet, it was not properly fastened and had fallen off prior to, or as a result of, the impact with the gate.

42. One cannot be absolute about if the helmet had have been properly fastened, whether this would have prevented the impact of the barbed wire with Mr Hoare's neck.

43. Mr Hoare was wearing a work shirt, jeans, and boots.

44. Mr Hoare was riding alone but with a UHF radio for emergency purposes. Co-workers knew roughly where he was and an estimated time for the task.

45. Mrs Hoare advised police that her husband had not received any formal or informal rider training.

46. It is unknown whether Mr Hoare read the Owner's Manual for the quad bike. Mrs Hoare advised that he had not watched the safety DVD for that particular quad bike but had watched a safety DVD in relation to a personal quad bike which he owned.

47. Mr Hoare was an experienced motorcycle and quad bike rider. His level of experience was such that the owners of the property mentioned to Mrs Hoare that if quad bike training became a mandatory requirement, Mr Hoare would have been the person they chose to conduct the training.

Relevant health issues

48. Mrs Hoare advised police that her husband was very fit and active and did not drink or take drugs. She said Mr Hoare had a good sleep the night before and woke up at about 6:00am.

49. Mr Hoare had been diagnosed with haemochromatosis (high iron levels in his blood). Mrs Hoare and his employer requested that the Coroner consider whether this could have contributed to the incident.

50. Mr Hoare's medical records were therefore obtained. They suggest that he had been adequately managing his condition and that his iron levels had been brought back to normal six months prior to the incident. The internal autopsy also demonstrated that there was no evidence of any organ failure consistent with the effects of haemochromatosis.

51. Enquiries were made with a good friend of Mr Hoare's whom he had a conversation with the night before the incident. It does not appear that Mr Hoare complained to his friend, his wife or anyone else prior to the incident about any symptoms of haemochromatosis, such as lethargy or loss of balance that could have contributed to this incident in any way.

Report of Professor Johan Duflou – Consulting Forensic Pathologist

52. Professor Duflou a forensic pathologist from NSW, provided a report commissioned by the lawyers acting on behalf of the employer. He agreed that the cause of death was as a result of a dislocation of the larynx, and this is a consequence of a quad bike accident. He also agreed that Mr Hoare's haemochromatosis played no significant role in his death.

53. He also stated that it was likely the injuries observed were the consequence of striking a length of wire with his neck, following which he has continued travelling for a limited distance, following which he has fallen off the bike. However, he

stated it is also reasonably possible for him to have struck something with his bike causing some limited instability without the bike toppling over, but causing him to fall off the bike. If this were the case, then his injuries in all likelihood would have been sustained on striking the ground. He stated he could not exclude as a reasonable possibility that the injuries to the neck structures were clearly the result of falling off the bike, as the injuries observed and described in the autopsy report were not sufficiently characteristic to determine mechanism with certainty in this case.

Why Mr Hoare crashed into the gate?

54. Mr Hoare had been living and working on the property for a few years, so he would have been quite familiar with the area in general and he was familiar with the incident location.

55. The gate incorporated three barbed wire strands with a centre piece star picket, and a metal strainer affixed to the adjoining fence.

56. The gate and adjoining fence had only been recently installed in late 2012 by a contractor, Mr Alan Blake. Mr Hoare's wife advised police that her husband knew where the gate was because he had instructed the workers where to install it. Mr Simpson advised WHSQ investigators that Mr Hoare was well aware of the location of the gate because he had to pass through the same gate several times in the five months prior to the incident to service a water tank in that area of the station. In oral evidence, Mr Burrell was of the opinion that it should have been in the forefront of Mr Hoare's mind that the gate was closed that morning because he was going there to muster cattle that were being kept in by the gate.

57. Mr Hoare was wearing a full face motorbike helmet but no face shield which could have obstructed his vision.

58. After the incident, WHSQ inspectors conducted a work place visit. They placed the star picket in the location where it would have been prior to the incident and took photos. They were of the opinion that the closed gate was identifiable from a distance.

59. However, Senior Constable Craig McConnel was of the opinion that the gate may not have been visible due to the possibility it could have been obscured by the background.

60. From a closer inspection of the photographs, it is evident that the barbed wire strands were not rusty because it was relatively new. This would have made it more difficult to see. The star picket was dark brown from rust and could easily have blended in with the many trees (some of which were thin like the star picket) in the background. The extent to which the star picket would have blended in with the background could have depended on Mr Hoare's approach angle.

61. Senior Constable McConnel had initially noted in his report that the gates were open for a lesser used track that was parallel but on the opposite side of the fence to the track used. He thought that it could have been possible that Mr Hoare had mistakenly thought he was on the parallel track where the gate was open. In oral evidence, Mr Burrell explained that this was a cow pad and would not have been used by Mr Hoare to get to the gate in question. It was therefore discounted as a possibility.

62. Due to contamination of the scene, Senior Constable McConnel was unable to identify any tyre tracks on the ground or any skid marks at the scene. He was also unable to calculate the speed of the quad bike.

63. Senior Constable McConnel was of the view that there was no evidence to support that Mr Hoare was travelling at an excessive speed. He noted that the combined weight of the quad bike and rider would have provided considerable force sufficient to sheer off the metal strainer of the gate, even at a relatively slow speed. The combined weight of quad bike and Mr Hoare has since been calculated to have been about 351.9kg.

64. Senior Constable McConnel did not believe that the location of Mr Hoare (10m forward from the gate and quad bike) was an indicator of excessive speed. He was of the opinion that it is more likely that Mr Hoare was forced back onto his back after striking the gate and was carried a short distance along the track before falling from the quad bike.

65. In oral evidence, Mr Burrell stated that it would have been reasonable for Mr Hoare to travel 60km/h safely on the road leading up to the gate, in the absence of cattle.

66. Mr Hoare had no traffic speeding infringements in the last five years and there was no evidence to suggest Mr Hoare's usual driving on the property was otherwise than safe.

Workplace health and safety issues

67. Workplace Health and Safety Queensland (WHSQ) did a thorough investigation of this matter as it was an incident that occurred in the workplace. Principal Inspector Gavin Wesche and Senior Inspector Colin Beven attended the scene on 29 May 2013.

68. Their investigation identified that Wentworth Cattle Co had policies and systems in place for the use of quad bikes on the property, including mandatory use of helmets. Workers received instructions in the safe use of quad bikes. Wentworth Cattle Co had a maintenance system and the quad bike was in good serviceable condition.

69. Wentworth Cattle Co also had appropriate systems in relation to communication and lone working. There was a serviceable radio on the quad bike as required in their employee induction and safety manual.

70. Workers identified that it was usual practice to stop near the gate, get off the quad bike to open it and then close it again when traversing through. It is unknown why Mr Hoare was not able to do this.

71. WHSQ identified that Mr Hoare was competent to operate the quad bike and had many years experience.

72. WHSQ concluded their investigation on 18 July 2013. WHSQ determined that no further action was required.

Conclusions

73. I am satisfied that Mr Hoare suffered fatal injuries after the quad bike he was riding drove directly into the barbed wire gate.

74. I note the alternative scenario of him falling from the quad bike as suggested as a possibility by Professor Duflou, but after examining the photographic evidence I find that in combination with all of the other evidence, I am led to an inevitable conclusion that the wire gate was pushed open by the quad bike at some speed. Once that conclusion is made, the evidence of the injuries and autopsy findings become quite consistent with that scenario.

75. What is a mystery is why Mr Hoare did not stop or avoid the wire gate. He was not new to the property. He was aware of the gate's presence and would have known it was likely to be closed. There is no evidence of any mechanical defect to the quad bike. Mr Hoare was not suffering from any physical or mental health condition which could have been contributory. There is no evidence he rode into the gate deliberately. He was wearing appropriate PPE equipment, albeit his helmet was probably not fastened. He was not likely to be fatigued, given the events occurred in the morning.

76. There is no evidence of any excess speed but it is unknown at what speed he was travelling. The gate was reasonably new and the wires had not yet rusted and may have been difficult to pick up in the midst of background.

77. The only plausible scenario is Mr Hoare became distracted or simply did not see the gate as he approached it.

Findings required by s. 45

Identity of the deceased – Gregory Peter HOARE

How he died – Mr Hoare died when the quad bike he was riding came into contact with a barbed wire gate, striking him about the neck and causing a dislocation of his larynx. It is likely Mr Hoare was distracted or for some other reason did not see the gate until impact.

Place of death – Strathalbyn Station, Bogie QLD 4805

Date of death– 9 May 2013

Cause of death –

1(a). Dislocation of the larynx
due to or as a consequence of:

1(b). A quad bike accident.

Comments and recommendations

I close the inquest in respect to my findings as required by s. 45. I will be considering any comments and recommendations in the second phase of this multiple inquest.

John Lock
Deputy State Coroner
Brisbane
26 September 2014