QUEENSLAND COURTS

OFFICE OF THE STATE CORONER

FINDINGS OF INQUEST

CITATION:	**Inquest into the death of Guss Robert Haken**
TITLE OF COURT:	Coroners Court
JURISDICTION:	Brisbane
FILE NO(s):	2013/3675
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, helmets, intoxication

REPRESENTATION:

Counsel Assisting:	Mr P. De Waard, Office of the State Coroner
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Workplace Health & Safety Queensland:	Mr K Parrott of Counsel I/B Crown Law

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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. On 12 October 2013, Mr Guss Haken was engaged in a pig hunting expedition on his father's property and the adjoining property at Colima Station, via Glenmorgan, Queensland. After losing control of his quad bike, he was thrown from it and suffered severe head injuries. He died at the scene, aged 21.

2. Mr Haken, his partner, and a group of his friends had arrived at the property at about midnight on 11 October 2013. They consumed alcohol, set up camp, went pig hunting in Mr Haken's utility, and then went to bed in the early hours of the morning. Throughout the next day, they set dingo traps, and went swimming. They consumed more alcohol. At about 5:30pm, the group again decided to go pig hunting with their dogs.

3. Mr Haken was travelling alone on his quad bike with a holstered rifle and his three hunting dogs on a rear carry rack that had been custom built for his quad bike. They were spread out in a convoy type formation. Mr Haken followed a quad bike with two persons on it, and a person on a motorcycle with a rifle slung on his back. A quad bike with three persons on it was travelling behind him. Some evidence indicates that Mr Haken was travelling at a speed of about 30 - 40km/h.

4. Prior to the incident, Mr Haken had let his three dogs off the quad bike and they were running along side him.

5. Mr Haken veered away from the others in front of him to ride around the perimeter of a dam. Evidence from wheel tracks indicates Mr Haken was travelling in a south easterly direction and approached a log to his right, which was partially covered by grass. Mr Haken turned the quad bike to the left to avoid the log and then entered a ditch. It was not possible to determine the angle of the turn undertaken by Mr Haken before impacting the ditch.

6. The ditch was partially obscured from view by the surrounding grass. In addition, the sun was setting behind Mr Haken and would have reduced the shadow definition on the opposing face. The only track marks evident in the ditch were scuff marks on the opposing wall made by the tyres when they travelled across the opposite face. There appears to have been a violent movement of the quad bike after contacting the ditch wall. The ditch wall was near vertical.

7. Due to either being thrown off the quad bike or being thrown forward, the back of Mr Haken's head connected with the front left rack and guard section of the quad bike. He suffered severe head trauma.

8. The quad bike was located 11.6m from the wheel impact marks on the ditch. Mr Haken was located 10.6m from the impact marks, about 1m to the left of the quad bike.

9. No one witnessed the actual crash. Mr Haken's friends behind him located him and raised the alarm with his other friends ahead. They observed Mr Haken lying

face down on the ground unconscious near the quad bike. Blood was observed to be dripping from his ears and there was a pool of blood underneath his head. His right wrist appeared to be broken. They immediately commenced CPR and contacted emergency services.

10. At approximately 6:05pm, a single ambulance officer arrived at the scene and continued CPR. A life extinct certificate was issued by the QAS officer at the scene at 6:25pm on 12 October 2013.

11. Mr Haken lost control of his quad bike after unexpectedly hitting a ditch. He was thrown from his quad bike and in the course of the incident, his head impacted with the front left rack and guard section of the quad bike, causing severe head trauma.

Autopsy results

12. An external and partial internal examination was conducted of the head and neck by a forensic pathologist, Dr R.W. Guard on 16 October 2013.

13. Dr Guard determined that there was a fracture of the base of the skull from side to side. There was considerable subarachnoid haemorrhage over the brain and raised intracranial pressure as a result.

14. Dr Guard determined the medical cause of death to be:

    1(a) Cerebral trauma to pons, mid brain, thalamus and subthalamic nuclei due to

    1(b) Unstable fracture of base of skull due to

    1(c) Quad bike accident.

The investigation

15. Police from the Tara & Surat police station and a Forensic Crash Unit Investigator from the Dalby Burnett FCU, Sergeant Sean Relf, attended the scene on the evening of the incident and took relevant photographs.

16. Sergeant Relf conducted an investigation and submitted his report on 21 February 2014. He also obtained further information in the lead up to the inquest at my request. Sergeant Relf provided oral evidence at the inquest.

17. Scene contamination by witnesses and others attending to Mr Haken limited the extent to which a detailed analysis could be conducted. However, Sergeant Relf's investigation was thorough and of a very high standard in the circumstances.

18. Sergeant Relf 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

19. The quad bike was a 2009 model Honda TRXFA9 with 540.2km on the odometer and 395.4 hours on the hour meter. The quad bike had been purchased new by Mr Haken in 2013.

20. Mr Haken designed, built, and fitted the metal carrying box on the rear of the quad bike. It was lightweight aluminium and high tensile. Its purpose was to carry working dogs, a UHF radio and 4.5 litres of water.

21. The quad bike was also fitted with a rear alloy carrying rack, UHF aerial and plastic PVC water pipe fashioned into a water container, at the rear. There was a spot light fitted to the rear of the rack to provide light behind the quad bike. A firearm/rifle sheath was also fitted to the quad bike on the right hand side, attached to the rack and down to the foot-pegs.

22. There was no CPD or ROPS installed.

Mechanical inspection

23. A mechanical inspection was conducted by Mr Mervyn Ritchie from the QPS Vehicle Inspection Unit at Alderley, Brisbane. He noted minor defects, which would not have affected the safe operation of the quad bike.

24. Mr Ritchie inspected the wheels and tyres and saw that the left hand front inner rim flange had a bruise to the inner flange consistent with impact to the lower control arm. The left hand front and both rear tyres had debris lodged between the outer rim flanges and tyre beads consistent with impact.

25. The seat was disconnected from its mounting points and the gear selector was in drive. The tyres, brakes, throttle assembly and steering assembly were in a sound mechanical condition.

26. There were no tyre pressure values obtained at the incident scene. Mr Ritchie noted that all tyres were inflated and in a satisfactory tread condition.

Intoxication

27. Mr Haken was in apparent good health at the time and there are no known medical conditions that may have contributed to the incident.

28. Toxicology analysis found alcohol at a level of 0.164% in the urine and 0.143% in the femoral blood. No other drugs were found.

29. The level of alcohol indicated that Mr Haken was intoxicated over three times the legal limit for driving a motor vehicle at the time of the incident. There is no doubt that this would have impaired his ability to safely operate the quad bike, to perceive hazards and to react to them.

Terrain and conditions

30. The ground surrounding the crash site consisted of soft powdery soil.

31. The grass and foliage around the ditch ranged in height from approximately 100mm to waist height.

32. The ditch was approximately 300mm in depth and approximately 1500mm wide. It was undulating and certainly not uniform in its make up. There was a near vertical reverse sharp lip on the opposing face, reversing in swing by about 100mm.

33. There is no indication of any adverse whether conditions on the day of the incident.

34. The ditch would not have been readily visible to Mr Haken as he approached. This ditch was partially obscured by grass and it is likely that he would have been more focussed on the lake to his left, as he was searching for pigs.

35. The Australian Government Geoscience Australia lists the sunset time at the GPS co-ordinates of the scene on 12 October 2013 to have been at 6:07pm. The sun setting behind Mr Haken would have reduced the shadow definition on the opposing face. The low angle of the sun (7 degrees above the horizon) would also have affected his ability to determine the depth of the field in front of him, including the ditch.

36. The FCU Investigating Officer, Sergeant Sean Relf, noted that consideration was given to the possibility of the hunting dogs riding with Mr Haken at the time; knocking the handle bars and making the quad bike veer sharply to one side. This had apparently occurred on a previous occasion. However, the witness accounts suggest the dogs were not on the quad bike at the time of the crash, having jumped from it a short time earlier, so this possibility was discounted.

37. Sergeant Relf noted that from the location of the ditch to the quad bike and witness accounts of Mr Haken's manner of driving shortly before the crash, it does not appear that he was travelling at an excessive speed per se. It is likely that he was travelling between 30 – 40km/h.

38. Sergeant Relf noted, however, that Mr Haken's speed over uncertain and perhaps unfamiliar terrain was too great to perceive and react to the hazard in front of him and when combined with the effects of alcohol, his chances of detecting the hazard would have been less.

Incident re-enactment by Mr Haken's father

39. Mr Haken's father, Mr Robert Haken, provided oral evidence at the inquest. In surprising and perhaps disturbing evidence, he advised that he had recently travelled back to the incident scene with the quad bike involved and had ridden through the same ditch in a similar direction to his son's direction of travel. He stated that when the quad bike hit the opposing face, due to its peculiar shape, the steering jammed hard left in the hole, taking the handle bars out of his hands. This occurred at a speed of about 15km/h.

40. Following this, he again travelled through the ditch in an identical direction at 19km/h and found that the steering again jammed hard left and then the quad bike kicked backwards, somersaulting backwards to the point where he was underneath the quad bike. Mr Haken's father jumped off the quad bike, which landed hard and stopped. Mr Haken was surprised his son, given his experience, was not able to do the same thing.

41. Mr Haken's father noticed that the new steering arm of the quad bike was again bent in a similar way as it had been in the incident. He stated that he expected the quad bike to go to the right when the steering jammed, but it went to the left. It appears that the peculiar angles and shape of the ditch masked the opposing, off camber lip, sending the quad bike into an unexpected trajectory.

Personal Protection Equipment

42. Mr Haken was not wearing a helmet at the time of the incident, nor did he ever wear a helmet when riding his quad bike. He had instead worn a baseball cap.

43. It was Sergeant Relf's opinion that had Mr Haken been wearing an approved safety helmet at the time of the crash, his chances of survival would have been much greater.

Training and experience

44. Mr Haken's father has advised police that his son had no formal rider training.

45. Mr Haken's father described Mr Haken as an extremely competent rider on both motorcycles and quad bikes. He had taught his son from the age of five years of age to ride quad bikes. He considered his son to be an extremely talented and good quad bike rider. He could wheel stand it, put it on its nose, and was able to handle all riding conditions. Amongst other things, this demonstrated that Mr Haken was well aware of how to handle the quad bike in challenging situations. It also demonstrated a certain culture as to driving behaviour and this may have also contributed to what occurred.

46. Mr Haken's father advised that his son had read the owner's manual, but with a specific focus towards a mechanical issue he had experienced when he first purchased the quad bike. He and other members of the family also viewed the DVD that was provided with the quad bike.

47. There were clear warning notices on the quad bike and within the user manual stating that riders should wear a helmet and not to drink and drive. The manual also had alerts for off road hazards and to never ride faster than the conditions warranted.

Conclusions

48. A common theme in a number of these inquests is that all riders, from children to adults, were regarded as experienced, competent riders, although there is evidence none of them had anything like formal training.

49. What is evident, is that quad bikes can be unforgiving if they are put into clearly dangerous situations and experience will not count for much. In this case it could have been any piece of farm machinery or motor bike involved, and still the same outcome could have occurred.

50. The event occurred in terrain which had visibility issues. Mr Haken was intoxicated and this would have impacted on his decision making and capacity to react at a number of levels. He was not wearing a helmet. He was likely driving at a speed which was not suited to the conditions when he hit a ditch and spun through the air, his head impacting with the front left rack and guard section of the quad bike, causing severe head trauma.

51. Taking away one or two of those variables may have avoided the tragic consequences.

Findings required by s. 45

Identity of the deceased – Guss Robert Haken

How he died – He died when the quad bike he was riding hit a ditch at a speed such that it somersaulted and in the course of so doing impacted with his head causing head injuries. He was not wearing a helmet and intoxication played a contributory part.

Place of death – Calima, 524 Glenearn Road Glenmorgan QLD 4423

Date of death– 12 October 2013

Cause of death –

1(a) Cerebral trauma to pons, mid brain, thalamus and subthalamic nuclei due to

1(b) Unstable fracture of base of skull due to

1(c) 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