QUEENSLAND COURTS

OFFICE OF THE STATE CORONER

FINDINGS OF INVESTIGATION

CITATION:	**Non-inquest findings into the death of PB**
TITLE OF COURT:	Coroner's Court
JURISDICTION:	Brisbane
DATE:	21 March 2016
FILE NO(s):	2014/576
FINDINGS OF:	Ainslie Kirkegaard, A/Brisbane Coroner
CATCHWORDS:	CORONERS: Investigation, Immobilisation of heavy vehicles and trailers; inadequate chassis support; error of judgement; traumatic asphyxia

PB was a 55 year old man who died at a commercial vehicle holding yard on 15 February 2014 when a car carrier trailer he was working on unexpectedly lowered, trapping him underneath.

PB's death was reported to the coroner because it was a traumatic work-related fatality.

PB's employment

PB had been employed in the transport industry for many years, almost his entire working life. He was the registered owner of a white MAN prime mover. PB had commenced sub-contracting to a private company in April 2011 and had exclusive use of a blue Top Start dual deck tandem axle car carrier owned by that company.

Under this arrangement, PB had been told not to do maintenance or repair work on the trailer himself but rather he would organize the repair work to be done, pay for it himself and then the company would reimburse him. It is understood that PB attended to all the minor maintenance and repair jobs on the trailer such as greasing, airbags and tyres.

Events leading to PB's death

PB had been renting parking space for his prime mover and the car carrier trailer at a holding yard since January 2013.

On the morning of Friday, 14 February 2014, PB phoned a friend, and former work colleague, S to ask for his help the next day to collect some new tyres as he would be without a car that day. He indicated to S that he needed to change a tyre, two valve stems, adjust the trailer brakes and grease it. He needed to get this work done as he was due to drive the combined vehicle to Townsville later on the Saturday afternoon.

S collected PB from home between 9:00am – 9:30am on Saturday 15 February. He stopped at a service station on the way to the holding yard intending to buy a drink and a magazine, but only purchased the drink as the magazine he wanted wasn't available. They then drove to the holding yard.

PB got his tools out and started preparing his grease gun. He suggested that S go and buy his magazine. S drove newsagency.

When S left the holding yard, there was a red Corvette and a silver Jeep on the car trailer. On his return, S noticed the prime mover and trailer had been moved to a specific area within the holding yard where PB was allowed to work on his vehicles. The Jeep had been reversed off the trailer and was positioned on the bitumen just off the ramp at the rear of the trailer. He noticed the trailer was jacked up with a jack under the front axle on the rear passenger side of the trailer and the stand under the cross member of the chassis. There were wooden chocks underneath the jack and jack stand to make it higher. One wheel had been taken off the front axle of the rear passenger side of the trailer and PB was just taking the second wheel off as S arrived.

S finished his drink and read his magazine. He then helped PB throw the two wheels into the back of his utility and drove to a nearby tyre outlet to buy replacement tyres. He phoned PB while at the tyre outlet because there were problems processing the

sale on PB's credit card. During this call, PB told him he had found a damaged airbag that needed replacing. It was the same air bag they both replaced the previous October. S returned to the holding yard, collected PB and drove to Freighter Trailers to buy a new airbag. They then drove to PB's house to collect his toolbox and returned to the holding yard. S parked his utility on the right hand side of the rig near the rear of the trailer.

PB got underneath the trailer with a ratchet trying to undo the airbag but was unable to undo the bottom bolts. He asked S to get the pipe to put over the ratchet to give it more leverage. PB put the pipe on the ratchet and S reached in with the pipe and cracked the bolts. This caused the airbag to hang, so both men then jumped up on top of the trailer. S was sitting on the trailer deck with his legs dangling down between the axles and PB was sitting on the opposite side, facing him. Just as PB was undoing the last two bolts on top of the airbag, there was a bang and the trailer suddenly dropped when the jack stand gave way. S observed how lucky they were given they had just been under the trailer undoing the airbag. PB suggested they should buy themselves a lottery ticket that afternoon.

PB reached down and pulled the jack stand out. S could see it was damaged, with pieces broken off. PB placed the jack stand on the trailer deck near where they were sitting. During this time the prime mover was in park with the engine idling to produce air for the airlines.

They continued undoing the airbag and the airline. PB handed S a bung (hole punch) to plug into the airline to keep the airbag inflated. They were aware that if the airbag deflated, the trailer would start dropping because the other three airbags would also deflate.

When PB undid the airline, the airbag fell to the ground between their feet where they were sitting. S kept hold of the bung into the airline but the pressure was too strong and the air was escaping. He told PB what was happening and PB told him to let go, they would have a breather and he would get something else. He told S to go and have a smoke. S let go of the airline and it fell to the ground. He put the bung on the trailer and jumped off the passenger side of the trailer. He turned towards the front of the truck to get his wallet, mobile phone and cigarettes. He heard PB jump off the trailer behind him and assumed he was going back to the utility to get something else from the toolbox to plug the airline.

Some eight to ten seconds later S turned around to walk to his utility and saw PB was already on his back under the trailer. He was under the tyre track on the left hand side where the faulty airbag was positioned, with his legs exposed. S then heard a drawn out voice calling out. He realised PB was pinned under the trailer. There was nothing to lift the trailer to get PB out and no one else in the holding yard to help, so S immediately phoned 000. There was nothing he could do to help until emergency services arrived.

Paramedics, Queensland Fire and Rescue Service personnel and police attended the scene soon afterwards. Paramedics observed that PB's upper body (from the waist up) was under the trailer. Access to him was very limited but it was apparent that the upper body and head had been compressed. Paramedics did not commence

emergency resuscitation efforts as PB was obviously deceased. Officers from the QPS Criminal Investigation Branch, Scenes of Crime and Forensic Crash Unit attended the scene and were satisfied that there were no suspicious circumstances. Inspectors from Workplace Health & Safety were also in attendance.

Autopsy findings

An external examination and partial internal autopsy (neck, chest and abdomen only) were performed on 19 February 2014. The autopsy revealed florid petechial haemorrhages externally and internally, consistent with traumatic asphyxia following compression in the lower chest and upper abdomen, which the pathologist considered caused the death. There was also severe coronary atherosclerosis. Toxicological analysis detected no alcohol or other drugs.

Outcome of QPS Forensic Crash Unit investigation

QPS Forensic Crash Unit investigators examined the scene and interviewed S, who demonstrated how the incident occurred.

The prime mover and the trailer were both inspected by an experienced Vehicle Inspection Officer who made the following observations at the scene:

- the prime mover and trailer were connected with their airlines and electrics connected
- there was no notable damage to the combined vehicle
- the trailer's first axle left dual wheels had been removed and this axle was unsupported
- there was a hydraulic bottle jack, a broken jack stand and two wheel rims which were fitted with new tyres near the work area
- the trailer's second axle left airbag had been removed with its air supply line disconnected from the removed airbag
- on the ground adjacent to the removed left hand side wheels was an old airbag with its rubber bladder torn consistent with its failure at some time
- a new airbag was sitting on the left side vehicle ramp adjacent to the left road wheels
- during testing the prime mover's handbrake had to be in the off position (not operating) to allow air supply to the trailer's air systems
- the prime mover and trailer were adequately chocked to prevent vehicle movement but during testing, the combination vehicle did move slightly when the handbrake was released
- the faulty second axle left airbag had been removed – this required inflating of the trailer's air suspension
- the disconnected airline had not been sealed so the Vehicle Inspection Officer used his equipment to seal the disconnected airline before the prime mover's engine was started – with the trailer's air suspension inflated, the trailer's unsupported first axle left airbag was at full extension with the axle's left brake drum contacting the ground
- with the disconnected suspension airline sealed securely, there were no audible air leaks in the prime mover or trailer air systems with the trailer's air suspension remaining inflated and the trailer chassis raised
- a tapered pin-punch was located behind the trailer's second axle in an open tool tray in the centre of the trailer and between the left and right side carry

racks in the proximity of disconnected airline – this pin-punch was inserted into the disconnected airline. The prime mover's air system was capable of maintaining sufficient pressure to ensure trailer suspension even with the air leak which was present when the pin-punch was positioned into the airline. However, security of the pin-punch within the airline was minimal and the pin-punch dislodged easily during testing

The Vehicle Inspection Officer concluded that:

- removal of the tyres was the first task performed and the airbag removal was secondary
- the release of the prime mover handbrake was necessary to obtain air supply to the trailer's air suspension system to enable repairs
- the release of the handbrake may have allowed some minor vehicle movement at some time, causing destabilisation of the jack and subsequent jack stand failure
- the extent of the damage to the jack may be due to the axle being supported on the bottle jack with the jack stand placed loosely under the axle – when the bottle jack slipped this would cause the trailer to drop onto and break the jack stand
- to enable the trailer chassis to drop down, the sealing of the disconnected airline would have to have been compromised – this condition was evident as there was no apparent sealing of the airline on first inspection
- the trailer's air suspension was raised prior to the incident
- the pin-punch has become dislodged causing the trailer chassis to lower causing reduced ground clearance to the left side carry rack behind the second axle – this condition may have been exacerbated by the slope on which the combination vehicle was located, the absence of the trailer's first axle left wheels and/or the absence of a jack or jack stand.

Examination of the jack revealed that it had a capacity of three tonnes. Both the jack bottle and stand were damaged.

Measurement of the space from the bitumen surface to the bottom of the steel side rail of the tyre rack where PB was trapped showed a clearance of 22cm.

The FCU investigator concluded that the incident was the result of an error of judgement on the part of PB, believing he had enough time to retrieve items from under the trailer before it lowered as the airbags deflated.

Outcome of Workplace Health & Safety (WHSQ) investigation

WHSQ investigators worked concurrently and collaboratively with the QPS Forensic Crash Unit investigation to examine whether the events leading to PB's death gave rise to a breach of the Work Health and Safety Act 2011.

On 17 February 2014, the then Office of Fair and Safe Work Queensland issued an incident alert about the incident in which PB died and on 16 September 2014 issued a safety alert about the risks associated with workers being crushed or hit by heavy vehicles or trailers (www.worksafe.qld.gov.au/news/safety-alerts/whsq/2014/heavy-vehicles-and-trailers-hitting-or-crushing-workers).

Workplace Health & Safety Queensland provided its final investigation report to the coroner on 9 March 2016 with advice that the Office of industrial Relations had decided not to commence prosecution in relation to the incident in which PB died.

Mechanical inspection and testing by a senior WHSQ investigator demonstrated a time frame of 75 seconds from the trailer's raised position to its lowered position, and corroborated S's explanation of what had occurred.

The WHSQ investigation concluded it was unlikely that the incident would have occurred had PB adopted procedures whereby adequate support (chassis stands) were put in place, positioned under structural members on the chassis to ensure safe access underneath the trailer.

Conclusion

PB died from traumatic asphyxia following compression of his lower chest and upper abdomen when the car carrier trailer he was working on lowered unexpectedly, trapping him underneath. Despite having considerable experience in the commercial transport industry, PB made an error of judgement, likely believing he had enough time to retrieve items from underneath the trailer before it lowered as the airbags he had been working on deflated. PB's death could have been prevented had adequate support been in place, positioned under structural members of the chassis to ensure safe access underneath the trailer. Following PB's death, Workplace Health & Safety Queensland issued an incident alert and a subsequent safety alert to highlight the risks associated with workers being crushed or hit by heavy vehicles or trailers, and safety measures to ensure heavy vehicles are correctly immobilised (www.worksafe.qld.gov.au/news/safety-alerts/whsq/2014/heavy-vehicles-and-trailers-hitting-or-crushing-workers).

Findings required by s. 45

Identity of the deceased – PB

How he died – PB died from traumatic asphyxia following compression of his lower chest and upper abdomen when the car carrier trailer he was working on lowered unexpectedly, trapping him underneath.

Place of death – Brisbane

Date of death– 15 February 2014

Cause of death – 1(a) Traumatic asphyxia
2 Coronary atherosclerosis

Ainslie Kirkegaard
A/Brisbane Coroner
21 March 2016