TRANSCRIPT OF PROCEEDINGS

CORONERS COURT

CRIDLAND, Coroner

WARW-COR-00000027/05

IN THE MATTER OF AN INQUEST INTO THE CAUSE AND CIRCUMSTANCES SURROUNDING THE DEATH OF CHRISTIAN PAUL BEATTIE

WARWICK

..DATE 14/09/2006

FINDINGS

CORONER: All the evidence having been completed in the inquest, I must now consider same and give my findings.

Section 45 of the Coroner's Act provides in subsection 2:

> "A Coroner who is investigating a death must, if possible, find who the deceased person is and how the person died, when the person died and where the person died and in particular whether the person died in Queensland and what caused the person to die.
>
> The Coroner must not include in the findings any statement that a person is or may be -
>
> (a) guilty of an offence or
>
> (b) civilly liable for something."

Section 46 of the Coroner's Act makes the provision that -

> "A Coroner may whenever appropriate comment on anything connected with a death, investigation at an inquest that relates to -
>
> (a) public health or safety or
>
> (b) the administration of justice or
>
> (c) ways to prevent death from happening in similar circumstances in the future.
>
> The Coroner must not include in any comment any statement that a person is or may be guilty of an offence or civilly liable for something."

The evidence shows that the deceased, Christian Paul Beattie was an experienced pilot employed by Cathay Pacific Airlines as a first officer and based in Hong Kong.

He flew into Toowoomba at about 10.15 a.m. on the 13th day of September 2005 in his privately owned ~~Hawk~~ Thorp T18 aircraft VH-DTR. He spent time with a friend, a Martin Taylor, a commercial pilot who owns and operates an air charter business. He mentioned to Taylor that the engine was missing slightly on the left-hand magneto. They removed the spark

plugs, cleaned and replaced them. The engine appeared to be running satisfactorily afterwards.

He left Toowoomba at 2 p.m. on the 13th day of September 2005 to fly to Moree in New South Wales, his intended cruise altitude being 8,500 feet.

This aircraft had had an annual inspection at Parafield, South Australia on the 7th of September 2005.

At about 4.20 p.m. Taylor rang the deceased's father, Alan Beattie, in Moree to ascertain if he had arrived. Alan Beattie phoned Taylor at 5.09 p.m. to advise his son had not arrived. Taylor then contacted the Australian Search and Rescue office in Canberra and initiated search and rescue for the deceased. Taylor then flew one of his aircraft along the route the deceased had planned to take. At about 5.15 p.m. wreckage of the fuselage of the aircraft was observed approximately 20 kilometres southwest of Inglewood in an area known as Whetstone by two Queensland Rail train drivers. They stopped the train and made a search of the area but failed to locate the deceased. Emergency Services were called and the body of the deceased was subsequently located about 30 metres from the fuselage.

The incident was investigated by Sergeant McKinnon of Inglewood police. Sergeant McKinnon stated he had no formal training in relation to aircraft crash investigation. He caused the Civil Aviation Safety Authority to be contacted and

requested assistance. He ascertained that the Civil Aviation Safety Authority or CASA was mainly responsible for policy and procedures and that the Australian Transport Safety Bureau conduct investigations into aircraft incidents. He contacted the Australian Transport Safety Bureau and was advised that because the aircraft was classified as an experimental aircraft there was no legislative requirement for them to assist in any investigation or examination of the wreckage. He asked if they had no requirement to do so, would they be able to send out an investigator to assist him, take a look at the wreckage and perhaps point him in the right direction. They declined to do so. He phoned around different areas of the Queensland Police Service like Scientific and Traffic Accident Investigation and basically nobody in the Queensland Police Service had any experience in this sort of investigation.

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~~David~~ Llewellyn, aeronautical engineer, of South Downs Engineering Proprietary Limited, Clifton was engaged at the request of Sergeant McKinnon to conduct a structural inspection of the aircraft. This inspection was conducted on the 12th of November 2005 at the Warwick police holding yard and then further in a hanger at the Toowoomba Airport.

Mr Llewellyn also holds a pilot's licence. Mr Llewellyn issued a report and concluded that the aircraft had disintegrated in mid-air and the break-up was basically the result of gross over-speed resulting in the aircraft gaining speed in an uncontrolled descent from its cruise altitude.

The break-up appeared to have occurred at a considerably lower altitude than the pilot's intended cruise altitude, probably not exceeding 3,300 feet. He estimated between 2,575 feet and 1,560 feet above the ground. Pilot incapacitation possibly due to carbon monoxide inhalation and/or striking his head on the canopy in turbulence may have been the reason the pilot did not prevent the over-speed from occurring. Neither engine or propeller malfunction was a causative factor.

An autopsy of the body was performed by Dr Guard of Queensland Health and Pathology Scientific Services at Toowoomba on the 15th of September 2005. Dr Guard has been a member of the Royal Australian College of Pathologists of Australia since 1976, a period of some 30 years. He has given evidence that he is not an aviation medicine expert. He had received a telephone call regarding the possibility of carbon monoxide poisoning being a possible cause or partial cause of the incident. The difficulty he had was with the body being received in a shattered condition. He was unable to obtain the usual blood samples for toxicology, so he collected the aqueous humour fluid from the eyes for toxicology which was processed at the John Tonge Institute. This fluid does not contain red blood cells which are required for the estimation of carboxyhemoglobin which is the product produced from carbon monoxide poisoning. However, normally the smaller samples of tissue that are taken for histology in case of carbon monoxide poisoning are reddish in colour at the time of collection and they retain this colour after 24 hours fixation in formalin due to the carboxyhemoglobin content of the red blood cells

inside the tissue. In normal situations normal tissue after 24 hours fixation in formalin turns brown in colour. In this particular instance he did not see any evidence of red colouration of the tissues after fixation. Although it is not as good a test as the toxicology tests with direct estimations of carboxyhemoglobin estimation, it is nevertheless a reasonable test of carbon monoxide poisoning. So he felt confident in saying that this body did not suffer from a significant degree of carbon monoxide poisoning. His opinion was that the deceased did not have a greater than 25 per cent level of carboxyhemoglobin. He was not sure at what point it would become lethal, but people would still be surviving below the 30 per cent level. They would still have enough oxygen. He could not exclude there being some carbon monoxide in the cabin.

By way of formal findings, on the whole of the evidence before me, I find the name of the deceased to be Christian Paul Beattie of Rivendell, Moree, New South Wales, that he died at Whetstone via Inglewood at approximately 2.30 p.m. on the 13th of September 2005. At the time of his death he was aged 36 years, having been born on the 20th of October 1968. He died as a result of the effects of massive traumatic injuries received then and there when the aircraft described as VH-DTR amateur-built aircraft model T18C serial number N122 he was flying from Toowoomba to Moree disintegrated in mid-air as a result of gross over-speed. The evidence adduced does not enable me to say why there was gross over-speed or whether the

deceased was incapacitated at the time. I am, however, unable to exclude the possibility that he was incapacitated.

I find the cause of death to be:

1 (a) massive multiple traumatic injuries, including transection of the trunk of the body with rupture and laceration of all internal organs and spinal column.

By way of comment, the investigating officer, Sergeant McKinnon, in his evidence has expressed concern at his inability to obtain assistance in investigating this incident from either CASA, the Australian Transport Safety Bureau or the Queensland Police Service. It has come to the notice of this Court there is a policy set out at section 17.3.3 of the Queensland Police Operational Procedures Manual, a copy of which has been admitted into evidence as Exhibit 38. There is also a document available for use by police officers titled Civil and Military Aircraft Accident Procedures for Police Officers and Emergency Service Personnel. This document is produced jointly by the Australian Transport Safety Bureau and the Directorate of Defence Aviation and Air Force Safety, a copy of which has been admitted into evidence as Exhibit 39.

I have noted the following comments made by the witness Llewellyn at pages 35 through to 38 of the transcript:

> "There are a few comments that I'd like to make. If we are indeed going to see a continuation of this practice of Air Safety Transport Branch declining to investigate accidents of aircraft in this category, then it is going to be necessary to improve, or have some kind of guidance for procedures. The first point in that is that it really is much more valuable for someone like myself to see the wreckage in situ before it's moved. I would

agree with Sergeant McKinnon's point that that really is a vital aspect, as you definitely miss points - points of evidence - because that was not possible. The second point is that if the wreckage has to be stored, then it's important to store it in a site protected from the weather. One of the problems that affected this particular investigation was that all the fracture surfaces of the steel components had rusted. Fortunately, if you have pre-existing fatigue - I mentioned that there's a flat - normally a flat surface, and if you look at that surface when it's in a fresh condition, you normally see what are often referred to as tired marks which are due to the progression of a cracked face across that surface. They are a very - irrefutable evidence of the presence of pre-existing fatigue failure. Fortunately there's another way - not quite as good a way in which one can look at the fracture surface. When a piece of metal fractures - a ductile piece of metal which these aeroplanes are made of - fractures under a pure overload, the fracture surfaces are normally at about 45 degrees to the line of distress, so that you'll - you'll find - all the fracture surfaces - you can pick a ductile fracture from its appearance by the fact that all fracture faces are at 45 degrees. In the case of that particular piece of steel, the surface is granular and each of those granules you'll find is at about 45 degrees as well as the overall shape of the surface, so I was able in this particular case in most instances eliminate the possibility of pre-existing fatigue by the shape of the fracture surface, but it would be far better if they hadn't been allowed to rust. The third factor is that the sequence of the break-up may also be revealed by bloodstains if they're there. If there had been any they'd have been washed off by rain, so we weren't able to make any deduction from that point. Now, I would congratulate Sergeant McKinnon on having the presence of mind to get the SES to do a map of the ground search. That was a great help. The form in which it was presented would've been more useful if it'd simply been a table of coordinates. One of the problems was the terminology used to identify the pieces. Some of the terminology on the ground map was a little difficult to decipher. In the event, it took me actually several days with a magnifying glass and the on-site photographs and the ground map and also a little sketch map that Mr Taylor had given me to try and prepare the picture that's in this report of the overall distribution of the wreckage. It could be less difficult than that if the techniques are developed a little. I do think that a bit of a guidance handbook and a list of names of people that are suitable to do this sort of investigation would improve the investigation a great deal. I would suggest that the question of a list of suitable people should rest with the Civil Aviation Safety Authority, specifically, probably, Mr David Villiers, who's a senior structural engineer. He'll be able to give you a short list. A written authority from the police would enable an investigator like myself to obtain information from

Air Services Australia and the Met Bureau and so on. That would help close off those questions. We didn't have one in this particular case and that did cause a problem."

Now, on page 9 of the booklet titled Civil and Military Aircraft Accident Procedures for Police Officers and Emergency Services Personnel under the heading Accident Procedures the following appears:

"Are All Aviation Accidents Investigated?

Civil - No.

The ATSB does not investigate all aviation accidents.

Section 21 of the Transport Safety Investigation Act 2003 defines the powers of the executive director of the ATSB to investigate aircraft accidents.

The ATSB records data from aircraft accidents and incidents for possible future safety analysis and selectively investigates (within its finite budget) those serious occurrences including fatal accidents that the ATSB believes will yield the most useful safety benefits especially for fare-paying passengers.

In general, the ATSB does not investigate sports aviation accidents or those involving amateur-built or experimental-category aircraft.

The ATSB will inform the appropriate sporting body and the police that the ATSB is not investigating. The police will normally coordinate the accident investigation. Consequently, the ATSB will not attend the scene or conduct an investigation. The police may wish to utilise the expertise of the organisation that is involved in sports aviation to assist in their investigation. Those bodies include the Gliding Federation of Australia, Recreation Aviation Australia, Australian Parachuting Federation, Australian Sports Aviation Federation, Australian Sports Rotorcraft Association."

Further at page 9 of the same document under the heading of

Protection of Aircraft Wreckage the following appears:

"The ATSB and Defence understand that police and Emergency Services personnel have a duty to take care immediately they arrive at the scene. However, it is important for determining the factors that contribute to the accident that wreckage ground scars and the accident site are disturbed as little as possible.

Civil -

Under the Transport Safety Investigation Act 2003 the ATSB may issue a protection order for the accident site. When a protection order has been issued, relevant personnel, including Emergency Services, will be notified. In such cases no-one may interfere with or remove the aircraft or its wreckage unless authorised by the executive director or an authorised ATSB transport safety investigator. However, authorisation by the ATSB is not required to ensure the safety of persons, animal or property, remove deceased persons or animals from the accident site, move the aircraft or the wreckage of the aircraft to a safe place if the wreckage poses a risk to the public or there is a risk that significant evidence could be lost.

Protect The Environment From Significant Damage or Pollution -

When the ATSB arrives on site, it will secure the site and the following will apply:

Only authorised personnel will be admitted to the accident site. Bystanders will be kept outside the established zone of safety."

At section 17.3.3 of the Queensland Police Operations and Procedures Manual the following appears:

"Policy -

For the purpose of this section, an aircraft incident includes an incident involving a powered aircraft, glider, hang glider, manned balloon or parachute while taking off, landing or in flight. Where the aircraft is used, it includes any craft using the within mentioned means of flight.

Officers who attend aircraft incidents where any person has been killed or injured or where there has been damage to property are to ensure the following agencies are advised of the incident:

1. The duty officer, Australian Transport Safety Bureau; and

2. If the aircraft incident may have occurred in a workplace, a local Workplace Health and Safety inspector.

3. The appropriate police officer to investigate an aircraft incident which involves death or serious injury to any person is an accident investigation squad trained investigator or an officer from the Criminal Investigation Branch. In other cases, any suitably experienced officer is appropriate to

> conduct the investigation. In case of aircraft incidents resulting in death or serious injury, responsibility for finalising the investigation may reassigned to another officer. If an accident investigation squad trained investigator or Criminal Investigation Branch officer has carried out sufficient investigations to determine that no criminal acts have occurred in the incident."

The procedure under the heading of Roll of External Investigators sets out:

> "The duty officer, Australian Transport Safety Bureau and the local Workplace Health and Safety inspector, external investigators, will advise whether they will be conducting an investigation into the incident. If either or both external investigators advise they will attend the incident, officers should ensure the scene of the incident is preserved until the arrival of these external investigators.
>
> The Australian Transport Safety Bureau has the function of investigating the circumstances surrounding any aircraft incident to prevent the occurrence of other incidents.
>
> In practice the ATSB reviews the nature and circumstances of any aircraft accident or incident reported to it and determines the probable safety value in conducting an on-site investigation.
>
> In cases where the ATSB determines not to conduct an on-site investigation, the relevant ATSB duty officer will provide information about the appropriate body to provide specialist advice to the investigating officers.
>
> ATSB investigators do not investigate aircraft incidents with a view to apportioning blame or liability.
>
> Consequently, the report of an ATSB investigator may not address the issues of interest to an investigating police officer. However, ATSB investigators may assist investigating officers with advice and will appear in Court to give evidence if required by summons or subpoena."

There is then a section headed Policy underneath the Roll of Police which I do not intend to repeat. Under Procedure it says:

> "Where first response officers should arrange for attendance of forensic officers and accident investigation squad-trained investigators or where accident investigation squad-trained investigators are

not available, officers from the Criminal Investigation Branch.

Where external investigators attend an aircraft incident which caused death or injury to any person or damage to property, investigating officers should conduct their investigation liaison with the external investigators.

Where external investigators have advised that they will not attend the incident, the appropriate investigating officer should commence the investigation of the incident without delay."

Now, I have selected pieces there.

Now, the concerns that were raised by Sergeant McKinnon have been addressed to some degree by those documents that have been exhibited as 38 and 39, but when you consider his evidence together with the evidence of Llewellyn and other witnesses in this inquest, the policies and procedures outlined in section 17.3.3 of the Queensland Police Operations Procedures Manual do not appear to adequately cover the situation that has arisen on this occasion.

From the evidence before me, the Australian Transport Safety Bureau has determined not to conduct an investigation into this incident. Sergeant McKinnon has attempted to obtain assistance from the ATSB as well as various areas of the Queensland Police Service, including traffic accident investigation and scientific services to no avail. He has some weeks later obtained the assistance of an aeronautical engineer, David Llewellyn. Mr Llewellyn in turn in my view has offered some very constructive criticism of the procedures followed in collecting evidence and the effect this had on his ability to attempt to determine the cause of the accident.

In my view, the Queensland Police Service should conduct a review of the policies and procedures outlined with a view to putting in place policy and procedures to deal with occasions where the Australian Transport Safety Bureau decline to conduct on-site investigation or provide information that would assist the investigating officer.

Consideration should be given to the establishment of a guidance handbook and a list of names of persons and organisations who are suitably qualified to assist in investigating aircraft accidents for use by police officers. Any steps in this direction should be taken in consultation with CASA and the ATSB.

I am thankful for the assistance offered by Mr Llewellyn and I close the inquest.
