MAGISTRATES COURT *of* TASMANIA

CORONIAL DIVISION

Record of Investigation into Death (Without Inquest)

Coroners Act 1995
Coroners Rules 2006
Rule 11

I, Simon Cooper, Coroner, having investigated the death of Sandra Southwell

Find, pursuant to section 28(1) of the *Coroners Act* 1995, that:

a) The identity of the deceased is Sandra Southwell;
b) Ms Southwell died as a result of injuries sustained by her in an aircraft crash;
c) The cause of Ms Southwell's death was multiple injuries; and
d) Ms Southwell died on 20 January 2018 at Tomahawk, Tasmania.

Introduction

1. In making the above findings I have had regard to the evidence gained in the investigation into Ms Southwell's death. The evidence includes:

    - An opinion of the forensic pathologist who conducted the autopsy;
    - The results of toxicological analysis of samples taken at autopsy and from the pilot of the aircraft;
    - A report from the Australian Transport Safety Bureau;
    - Meteorological evidence;
    - An Ambulance Tasmania report;
    - Relevant police and witness affidavits;
    - Medical records and reports; and
    - Forensic and photographic evidence.

What a Coroner Does

2. Before looking at the circumstances surrounding Ms Southwell's death it is necessary to say something about the role of a coroner. A coroner in Tasmania has jurisdiction to investigate any death which appears to have been the result of an accident.

3. When investigating any death, whether or not an inquest is held, a coroner performs a role very different to other judicial officers. The coroner's role is inquisitorial. She or he is required to thoroughly investigate a death and answer the questions (if possible)

that section 28 of the *Coroners Act* 1995 asks. Those questions include who the deceased was, how he or she died, what was the cause of the person's death and where and when it occurred. This process requires the making of various findings, but without apportioning legal or moral blame for the death. A coroner is required to make findings of fact from which others may draw conclusions. A coroner may also, if he or she thinks fit, make comments about the death being investigated or, in appropriate circumstances, recommendations with a view to preventing similar deaths in the future.

4. A coroner does not impose punishment nor award monetary compensation – that is for other proceedings in other courts, if appropriate. Nor does a coroner have the power to charge anyone with crimes or offences arising out of the death the subject of investigation. In fact, a coroner in Tasmania may not even say that she or he thinks someone is guilty of an offence.

5. As noted above, one matter that the *Coroners Act* 1995 requires is that a finding be made about how death occurred. It is well settled that this phrase involves the application of the ordinary concepts of legal causation. Any coronial inquiry necessarily involves a consideration of the particular circumstances surrounding the particular death so as to discharge the obligation imposed by section 28(1)(b) upon the coroner.

6. Finally, it should be noted that the standard of proof at an inquest is the civil standard. This means that where findings of fact are made a coroner needs to be satisfied on the balance of probabilities as to the existence of those facts. However, if an enquiry reaches a stage where findings being made may reflect adversely upon an individual the standard applicable is that set out in the judgment in *Briginshaw v Briginshaw*.[1] That case stands for the proposition that it is particularly important to bear in mind the seriousness of any allegation when deciding whether that allegation is true or not. Put another way, the task of deciding whether a serious allegation is proved should be approached with great caution.

Background

7. Ms Southwell died when the Cessna 182P aircraft she owned with her partner, Mr Barry Bransden, crashed while attempting to land at a private airfield near Tomahawk, North East Tasmania.

[1] (1938) 60 CLR 336 (see in particular Dixon J at page 362).

8. Mr Bransden was the pilot in command of the aircraft when it crashed. Ms Southwell was in the front passenger's seat. Ms Southwell was an experienced pilot having about 1,280 hours of aeronautical experience, a Class 2 Aviation Medical Certificate and holding a Private Pilot (Aeroplane) Licence. Mr Bransden had the same qualifications but fewer flying hours (approximately 560).

9. Ms Southwell and Mr Bransden had flown extensively in rural and remote areas of Australia. Both were experienced at landing at remote and unfamiliar airfields. Relevantly, both had completed a bush flying training course and had exposure to landing at, and taking off from, remote and unfamiliar airfields.

10. The couple bought the Cessna 182P registered number VH-TSA, in 2012. The evidence was they had flown it together since then and flown many times throughout Australia.

11. I am satisfied that at the time of the crash both Mr Bransden, pilot in command, and Ms Southwell held the qualifications necessary to fly the Cessna 182P.

Circumstances of Crash and Death

12. On Saturday 20 January 2018, Ms Southwell and Mr Bransden left the Vale Airfield at approximately 4.45pm to fly to a farming property 'Old Boobyalla' at 4425 Waterhouse Road, Tomahawk, a flight of approximately 79 nautical miles in length.[2] Vale Airfield, where Mr Bransden and Ms Southwell kept their Cessna 182P, is on Claude Road, just outside the town of Sheffield.

13. Before setting off on the flight Mr Bransden and Ms Southwell checked the weather on an 'app' – AV PLAN[3] – on their iPad. Mr Bransden later told investigators:

> "*The weather said it was a 9 knot[4] wind from 290 degrees, on the compass bearings, at Devonport Airport, a north westerly. The system has recently changed and only gives bigger airports in the area. I [sic] used to give district reports but that changed several months ago. We then check the satellite images and wind chart, which showed northerly for the north east and southerly for the east coast.*"[5]

14. In fact, the wind direction on the north east coast of Tasmania that afternoon was for westerly winds above 4,500 feet above sea level but an easterly sea breeze below that height. It is apparent, both from Mr Bransden's affidavit and what subsequently occurred

[2] Nautical Mile is the unit of measurement used for air, as well as sea, navigation.
[3] A commonly used recreational flight planning tool.
[4] 1 knot = 1 nautical mile per hour.
[5] See affidavit of Barry Joseph Bransden, sworn 10 March 2018, page 4.

at the Old Boobyalla airstrip, that neither he nor Ms Southwell were aware that an easterly sea breeze was forecast for Tomahawk that afternoon.

15. The couple intended to spend the night with friends at Old Boobyalla. It was intended that Mr Bransden would fly to the property and Ms Southwell fly back the next day. Accordingly, Mr Bransden was seated in the left front seat, as pilot in command. Ms Southwell was seated in the right front passenger's seat. 156 cm tall, Ms Southwell was sitting on a booster seat and had one behind her back.

16. 'Old Boobyalla' property, owned by Mr Richard Propsting, has a private airfield. The airfield is located approximately 2.9 kilometres north of Waterhouse Road and roughly 1.75 kilometres inland from Bass Strait.

17. The airfield consists of two grass runways. The two runways give four different landing direction options. The first runway is oriented generally east southeast – west north west (or more accurately 281 degrees magnetic). It is 717 metres long and slopes gently towards the west for the first 500 or so metres before levelling out. The ground rises at both ends of the runway. A seven metre high eucalyptus tree was on the rising ground at the western end of that runway.

18. The second runway is shorter than the first. It is approximately 400 metres in length. It bisects the first runway roughly 270 metres from its eastern end. It is oriented in a general north – south direction.

19. The airstrip has no facilities other than a hangar. It does not have a windsock. Windsocks are a cheap, and simple device commonly used at airstrips to give a clear and easily understood indication of wind direction. Current aviation regulations do not require Old Boobyalla airstrip to have a windsock.

20. Mr Bransden had never flown to Old Boobyalla airstrip before; Ms Southwell had once – approximately seven years before.

21. As they approached the airfield from the west, under the cloud base, it commenced to drizzle. Mr Bransden later told investigators that as he commenced the descent of the plane to land, approximately 10 nautical miles from Old Boobyalla, the cloud base 'was getting lower'.[6]

[6] *Supra*, page 4.

22. Mr Bransden said:

> *"On reaching the airstrip, we were 1,000 feet above ground level. We both looked for a windsock and it was obvious to us that the airstrip didn't have one. We flew straight over the airstrip from the west. I then turned the aircraft to the right and headed south westerly and did a left hand orbit back towards the strip…* ***I was sure I was flying into a headwind****, because of the forecast".*[7]

[Emphasis added].

23. Shortly after 5.00pm Mr Propsting (who was filling in holes near the hangar) heard and saw the Cessna 182P approaching. Because he knew the wind in the vicinity of the airstrip was blowing at between 15 and 20 knots from the east, Mr Propsting (himself a pilot who regularly used his airstrip – and kept a plane in the hangar) expected the plane would circle towards the nearby settlement of Tomahawk (north west of the airstrip) and then land on the longer of the two strips from the west against the wind.[8] In fact, the Cessna 182P performed a series of circles (or orbits) to the east of the airstrip.

24. Mr Propsting realised that Mr Bransden and Ms Southwell were having some difficulty. He initially thought that they might have been having trouble actually locating the airstrip so he drove his vehicle to a point near the landing strip with his headlights on in an attempt to indicate to them they were in the right area. He saw the plane approaching to land from the east. Activating the hazard lights on his vehicle and flashing his headlights continuously Mr Propsting drove on the strip towards the landing Cessna 182P to try and warn that they were approaching from the wrong direction (i.e. with a tailwind). His efforts to warn the landing aeroplane were unsuccessful and he pulled off to the side of the airstrip.

25. Mr Bransden saw Mr Propsting drive his vehicle onto the airstrip with the headlights on. Unfortunately, rather than recognising Mr Propsting was attempting to warn against landing from the east, Mr Bransden interpreted his actions as a message to line up with his headlights. Accordingly, he continued with his landing.

26. As he turned his vehicle off the airstrip, Mr Propsting saw the Cessna 182P land approximately two thirds of the way down the length of the longer airstrip.[9] The plane bounced and then hit the eucalyptus tree at the end of the strip. He saw it spin through

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[7] *Supra*, page 5.
[8] Affidavit of Richard Michael Propsting, sworn 23 January 2018, page 2.
[9] Subsequent investigation determined that the aircraft first contacted the runway 437 metres from its eastern end– see affidavit of First Class Constable Nigel Kelvin Housego sworn 3 February 2018, page 5.

about 150 degrees to the right before crashing into the ground, approximately 30 metres beyond the tree.

27. Mr Bransden described what happened as he attempted to land the aircraft:

> *"I was approaching at I would suggest 70 knots, airspeed which was 15 knots too fast. I didn't realise the approach was too fast until [I] was on the point of touchdown. My ground speed was measured by feel and I now know that it was too fast. All the controls on the aircraft were working and responding as they were required to do. I touched down with 40 degrees flap and zero throttle. Due to my high speed, I bounced and it was a high bounce, something I don't normally encounter. I landed back down again and just before this occurred, Sandra said to me, "Go round, full throttle".*
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> *I then pushed full throttle and Sandra said, "I'll do flaps." I knew that she would return the flaps to 10 degrees, we often do this as a team, doing touch and goes. I had full confidence in her because she is an excellent pilot. She had upgraded her license to IFR[10], instrument rated command level, about 18 months ago.*
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> *I had full throttle pushed when we bounced the second time and then after that bounce, there felt like there was a momentary hesitation and I put that down to the inertia of the bounce. The plane was on full throttle, I had pulled back on the stick to create maximum climb rate, the nose of the aircraft pointed upwards and the engine was revving at full throttle smoothly. I had momentum taking [the] aircraft along the airstrip as it was gradually climbing away from the ground. I did pull the stick back to almost stall speed and Sandra said "don't stall it." I then thought we need to go to Bridport airstrip and reassess.*
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> *I suspect I was doing around 55 knots on the air indicator and running out of the airstrip when I saw a banksia tree above and in front of the right wing.[11] It was about 1.5 metres higher than the wing. The right wing hit the tree and I think the undercarriage collided with the main trunk. There was a lot of noise, the engine was at full revs, 2400 rpm. There was a noise when the tree was hit by the plane. Sandra didn't make another sound."*

28. There is no other account of the last moments in the cockpit of the aircraft immediately before it crashed. However, I have no reason to doubt that Mr Bransden's evidence I have set out above is honest, accurate and reliable.

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[10] Instrument Flight Rules.
[11] Other evidence suggests that the tree the plane struck was a eucalyptus but nothing turns on the point.

29. Mr Propsting saw the aircraft crash. He rushed to the wreckage where he found Mr Bransden conscious. Mr Propsting helped Mr Bransden get out of the plane before attempting with his partner Ms Jeanette Fisher (who had by now arrived on the scene) to remove Ms Southwell (who was clearly unconscious) from the plane. Mr Propsting and Ms Fisher were able to drag Ms Southwell clear of the wreck. She was still breathing, but unconscious. Ms Fisher called triple '000' to request the assistance of emergency services. Mr Bransden was made as comfortable as possible in the nearby residence. Mr Propsting and Ms Fisher tried to keep Ms Southwell warm with a mohair blanket and a coat.

30. The first emergency services personnel to arrive in response to the '000' call were Mr Terence Binns, the Brigade Chief of the nearby Tomahawk Volunteer Fire Brigade, and his son Timothy Binns, a former army medic and current volunteer firefighter. Both men worked to make the scene safe and attempt to keep Ms Southwell alive. Police arrived at 6.07pm, as did more volunteer firefighters from the Bridport Volunteer Fire Brigade and personnel from nearby SES units. The first responders handed over Ms Southwell's care to ambulance paramedics when they arrived on the scene. The efforts of the volunteer firefighters first on the scene (and in particular Mr Timothy Binns) are, in my opinion, worthy of special recognition.

31. The rescue helicopter was dispatched from Hobart. The intention of paramedics was that Ms Southwell would be transported by the rescue helicopter to hospital. She was removed from the scene by ambulance and transported to a predetermined meeting point where the helicopter could (and did) land at the intersection of Waterhouse and Tomahawk Roads. The ambulance carrying Ms Southwell arrived at that meeting spot at 7.20pm. Efforts were made to stabilise her there before she was placed in the helicopter but unfortunately, Ms Southwell was unable to be revived and died at the scene. After formal identification, her body was conveyed by the rescue helicopter to the Launceston General Hospital and then transported from there by mortuary ambulance to the Royal Hobart Hospital.

32. The scene was secured as night had fallen for further examination the following day. Mr Bransden was transported by ambulance to the Launceston General Hospital.

33. Blood was taken from him at the hospital and subsequently analysed at the laboratory of Forensic Science Service Tasmania. That analysis was negative to alcohol and drugs – both prescription and illicit. I am satisfied that neither alcohol nor drugs contributed to the happening of the crash.

34. In addition, I am satisfied the response of the various emergency services – Fire, Police, Ambulance and SES – was timely and professional.

Forensic Pathology Investigations

35. At the Royal Hobart Hospital, experienced forensic pathologist Dr Donald Ritchey carried out an autopsy upon Ms Southwell's body. He found that she had suffered severe traumatic injuries of the head, chest and abdomen with, in particular, multiple skull fractures. He expressed the opinion, which I accept, that the cause of her death was multiple traumatic injuries.

36. Samples taken from Ms Southwell's body at autopsy were subsequently analysed at the laboratory of Forensic Science Service Tasmania. No alcohol or drugs (illicit or prescription) identified as being present in those samples.

37. I am satisfied that Ms Southwell died as a result of injuries sustained in the aircraft crash and that no pre-existing medical conditions contributed to her death.

The Aircraft

38. The aircraft in which Ms Southwell sustained her fatal injuries is a four seat, high wing single aircraft. It is a 1976 model of the aircraft and was built in the United States of America in 1977. The aircraft itself was first registered in this country in 1978 and the registration transferred to Mr Bransden and Ms Southwell in 2012.

39. The evidence is that the Cessna 182P was serviced every 100 hours, as required. In addition, Mr Bransden and Ms Southwell had spent a considerable amount of money after they bought the plane (in excess of $100,000) having the avionics[12] system completely replaced and on a Civil Aviation Safety Authority (CASA) airworthiness inspection.

40. Subsequent to the crash the aircraft was examined by investigators from the ATSB. Although the report released by the ATSB is silent about the issue, there is nothing in the report, or any other evidence, to suggest that the aircraft was anything other than mechanically sound and airworthy. I am satisfied that the crash did not occur as the result of any mechanical defect on the part of the aircraft.

[12] 'Avionics' describes the suite of navigation and communications for most aircraft.

Why Then Did the Crash Occur?

41. The evidence makes it very clear that the simple, direct cause of the crash in which Ms Southwell sustained the injuries which killed her was the fact that Mr Bransden attempted to land the 'wrong way' i.e. with a tailwind. This in turn was due to a failure to appreciate that the wind was blowing from the east. A contributing factor may have been that the necessary flap position when the 'go around' was attempted may have been incorrect. I will consider each of these issues seriatim.

42. Normally, an aircraft is landed into the wind so as to reduce groundspeed. A reduction in groundspeed reduces the length of runway required by the aircraft to land. Nonetheless, it is possible to land with a tailwind, albeit a limited one.

43. The length of runway required for any aircraft (and the Cessna 182P is no different) is specified in the Pilot's Operating Handbook for the relevant aircraft. In the case of this aircraft the Handbook specified that the total distance required to land was 502 metres. Thus, if there had been no wind at all or the Cessna had been landed into the wind, there was ample length of runway upon which to safely land.

44. The Pilot's Operating Handbook indicates that a 50 per cent increase in runway length was required to land the Cessna 182P with a tailwind of up to 10 knots. This meant that the runway was not long enough upon which to land the aircraft. This would have been so even if the tailwind had been less than it was.

45. In short, in the prevailing wind conditions, the aircraft could not have been landed on the chosen runway after 5.00pm on 20 January 2018.

46. The decision to attempt to land in a general westerly direction, was made because Mr Bransden and Ms Southwell did not know the prevailing wind direction at Tomahawk as they attempted to land. Plainly, if they had, it is inconceivable that they would have chosen to land in that direction. I have already touched upon the fact that before setting out Mr Bransden and Ms Southwell checked the wind direction (and weather generally) as part of their pre-flight planning. The evidence is, however, that an accurate weather forecast for the Tomahawk area, including wind direction and speed, was available on 20 January 2018 from the Bureau of Meteorology's website, in the Aviation Weather Services area.

47. In my view, the failure to apprehend the correct wind direction (and strength) contributed directly to the happening of the crash in which Ms Southwell died. I accept

that there were alternative methods of identifying wind direction such as observing smoke on the ground (if there had been any), comparing groundspeed with airspeed or observing the signs of wind moving over water. However, I note that the evidence is the weather was deteriorating and Mr Bransden and Ms Southwell were attempting to land on an unfamiliar airstrip. I am in no doubt that they felt pressure to land. No doubt, this affected their decision to persist with the landing. Both looked for a windsock which was not there. I think it fair to conclude that if a windsock had been present Mr Bransden and Ms Southwell would have seen quite clearly the direction of the wind and not attempted to land in the direction they ultimately chose.

48. The final issue is the question of the aircraft's flaps. Mr Bransden said that as he attempted to perform the 'go around' Ms Southwell said she would "do flaps". He knew this to mean that she would return the flaps to 10 degrees - the correct position for the flaps when completing a steep climb as part of a go around manoeuvre. After the crash, ATSB investigators found that while the flap lever in the aircraft cockpit was in the 10 degree position, the flaps themselves were still in the 40 degree position. The evidence does not allow a conclusion to be made as to whether they were in this position because Ms Southwell did not change them to 10 degrees in sufficient time to enable them to be properly engaged or as a result of them becoming dislodged in the crash. If it was the former, then this would have meant that the aircraft would have been unable to climb in sufficient time to avoid the seven metre tree at the end of the runway. However, as I have said, the evidence does not allow me to reach a concluded view as to this issue.

Conclusion

49. I have already mentioned that the airfield was not equipped with a windsock or any other means of indicating wind direction. Mr Bransden made particular mention that both he and Ms Southwell looked for a windsock as they manoeuvred the Cessna to land. However, there was no requirement for the airstrip to be so equipped. Private airfields are regulated (that may not be the correct word as the regulatory instruments are 'guidelines') by so-called 'advisory publications' published by the Civil Aviation Authority (CASA). The relevant guideline - CAAP 92-1 (1) Guidelines for aeroplane landing areas - clearly recognises the desirability of aeroplane landing areas having a method of determining the surface wind indicating "a windsock is the preferred method".[13]

50. Section 28 (2) of the *Coroners Act* 1995, permits me to make recommendations with respect to ways of preventing further deaths and on any other matter that I consider

[13] CAAP 92-1(1) Guidelines for aeroplane landing areas, paragraph 8.7

appropriate. Section 28 (3) authorises comment on any matter connected with the death. In my view, consistent with authority[14], the question as to whether windsocks should be mandatory at all airstrips is an appropriate matter for comment in this case. There seems little doubt that had the airstrip been equipped with a windsock the tragedy would have been averted. I therefore comment that, in my respectful view, it is time for the regulatory body to give serious consideration to amending the relevant Civil Aviation Regulation (CAAP 92-1 (1)) to ensure all airstrips are fitted with windsocks and that the windsocks, once installed, are appropriately maintained.

51. In making this comment, I am mindful that such a requirement will impose a financial burden upon the owners of private airstrips. However, I think there are three things to say about that. First, the widest possible use of windsocks can only enhance aviation safety – an unarguably positive outcome for the community as a whole. Second, I note the cost of installing and maintaining a windsock is on any view of it, modest. Third, by far the greatest beneficiaries will be the owners of the private airstrips – who are the most regular users in most cases of their own airstrips.

52. In conclusion I convey my sincere condolences to the family and loved ones of Ms Southwell.

Dated 15 April 2020 at Hobart in the State of Tasmania.

Simon Cooper
Coroner

[14] See for example *Harmsworth v The State Coroner* [1989] VR 989.