

SOUTH



AUSTRALIA

FINDING OF INQUEST

An Inquest taken on behalf of our Sovereign Lady the Queen at Adelaide in the State of South Australia, on the 22nd and 23rd of May and the 21st of August 2001, before Wayne Cromwell Chivell, a Coroner for the said State, concerning the death of Samantha Elaine Irvine and Goro Sakamoto.

I, the said Coroner, do find that Samantha Elaine Irvine, aged 26 years, late of 157 Westlake Drive, Westlake, Queensland died at Waikerie on the 2nd day of March, 1999 as a result of multiple injuries and that Goro Sakamoto, aged 22 years, late of 2-2-17 Nose Hights 28, Katayama-cho, Suita-shi, Japan, died at Waikerie on the 2nd day of March, 1999 as a result of multiple injuries. I find that the circumstances of the deaths were as follows:

1. Introduction

- 1.1. At about 3pm on Tuesday, 2 March 1999 a mid-air collision occurred between a Piper Pawnee powered aircraft, registered number VH-EVZ piloted by Samantha Elaine Irvine, and a Grob Astir CS single seat glider piloted by Goro Sakamoto. As a result of the collision, the Piper and the Astir CS aircraft crashed to the ground, and Irvine and Sakamoto were killed instantly. At the instant of the collision, John Blyth, the pilot of a Grob Twin Astir CS glider, which was being towed by the powered aircraft, detached the tow cable and managed to avoid the collision.
- 1.2. The collision occurred about 3 kilometres south of the Waikerie Gliding Club. Emergency services were called to the scene, and paramedic Linda Martin examined the bodies of the deceased and formally pronounced life extinct (see exhibit C15a, p2), although it was obvious to all who attended the scene immediately after the crash

that both pilots had died (see the statements of David Norman, exhibit C9a and Mark Stanley, exhibit C8a).

1.3. Cause of death

A post-mortem examination of the body of Samantha Irvine was performed by Dr J D Gilbert, Forensic Pathologist, on 3 March 1999. Dr Gilbert's report (exhibit C2a) confirms that Ms Irvine suffered multiple injuries:

‘... including a closed head injury associated with skull and facial fractures, a ruptured aorta, lung lacerations associated with a flail chest due to multiple rib fractures, ruptured stomach, and multiple limb and pelvic fractures. The injuries would have proved instantly fatal.’

(Exhibit C2a, p5)

- 1.4. A post-mortem examination of the body of Goro Sakamoto was performed by Dr R A James, Chief Forensic Pathologist, on 4 March 1999. Dr James' report (exhibit C6a) reveals that Mr Goro's glider probably struck the ground upside-down, and his head impacted the ground on several occasions. His head was crushed, and cerebral avulsion had had occurred. Dr James commented that the injuries would have been 'immediately fatal' (exhibit C6a, p4).

2. The events of 2 March 1999

- 2.1. Samantha Irvine piloted the tow plane which launched Mr Sakamoto's glider at about 1:40pm. One of the instructors, Mr Nobu Harigae, helped Mr Sakamoto by acting as the 'wing runner' at the takeoff. John Blyth had also assisted him during the morning and commented that:

‘Goro appeared in good health and was very cheery and responsive.’

(Exhibit C22, p1)

- 2.2. After Ms Irvine and Messrs Blyth and Harigae had lunch, Ms Irvine returned to the airfield and launched several more gliders.

- 2.3. When the passengers, Messrs Purvis, Shaw and Gladwin, arrived for their flights with Mr Blyth, they received an extensive safety briefing from David White, a club official, and the Twin Astir, VH-IKU, was then prepared for launching. Mr Blyth said:

‘I was talking to Samantha during this period and she was in good spirits and in a buoyant mood ...’

(Exhibit C22, p2)

- 2.4. John Purvis was nominated by his group to be the first passenger for the day. He was helped into the front seat and Mr Blyth secured himself into the rear seat of the aircraft. He gave Mr Purvis some further safety instructions, and the master power switch was turned on by an assistant.
- 2.5. The tow-line was attached, and the launch proceeded at about 2:55pm. Mr Blyth described the launch as ‘uneventful and standard, and was a very nice smooth launch’ (exhibit C22, p2).
- 2.6. Mr Blyth, an experienced pilot both of powered aircraft and gliders, was in the best position to describe what happened during the flight. He gave a statement to the investigating police officer the following day and although he had some reservations about the language in the statement, he was happy to adopt it as accurate, with one major exception which I will mention later. Mr Blyth’s description of the collision is as follows:

‘We continued to climb steadily and at about the western end of the airport we started making a gentle turn to the left and then followed the road south from the airport for a short distance; we effectively were making a gentle bank continually and commenced to fly in an easterly direction. At about this time, although I was concentrating on the positioning of the Tug aircraft and its movements, I was also able to briefly explain to the passenger what was happening and I can remember telling him that we were then at about 1200 feet. We were continuing to climb steadily and turn gently to the left until we were heading almost in a north to north-westerly direction.

Again we were continuing to climb steadily and it is my recollection that we had straightened up at this stage; I remained focused on the positioning and the movements of the Tug Plane, however at this point something attracted my attention out to the right.

I looked right and slightly forward of the wing of my glider and was surprised to see a single seater glider with a red nose and a glimpsed identification of DL flying extremely close to my glider at the same altitude but travelling marginally faster. I watched the other glider for no more than 1 or 2 seconds as I expected him to manoeuvre away from us as gliders and Tugs on tow have very limited manoeuvrability.

At this time I believe this glider would have been less than 60 metres away from my glider; it was less distance than to the Tug Plane. It was still out to my right at about 45 degrees, he was mirroring our altitude, and closing in on us. We would have been about 2.5km south of the Waikerie Airport at this time and I estimate we would have been at about 1500 feet.

The other glider was on a converging course and I made an instant decision to make an Urgent radio call, ‘Break Right, Break Right’. The radio mic is mounted on the right side of the cockpit; although I am normally left handed I fly naturally right handed like most pilots, so I picked up and used the mic with my left hand.

Just at about the time of this call I saw the left wing of the Tug plane drop slightly, however I could not say if this was the commencement to change direction or just normal thermal activity, I just couldn't say.

Neither the tow plane or the other glider changed attitude in any way and these intervening few seconds now brought the other glider perilously close to the tow rope between the tow plane and myself. GDL then commenced a very gentle turn to the left and towards the tow rope. I dropped the radio mic and reached down with my left hand for the tow release handle as I could see the other glider was going to pass between myself and the tow plane.

I decided not to release the rope at that instant as I felt that if I did the pilot of the other glider would have been presented with a wide area of loose rope, instead I decided to keep the rope connected and tight in the hope that this smaller target may have avoided him becoming entangled in the rope.

Although I was seated in the rear cockpit of my glider I had a clear view of this second glider manoeuvring across my path, it was directly between my craft and the tow plane.

The other glider continued along the same path and I could see that he was going to hit the tow rope and then an instant before he hit the rope I disconnected from the tow.

The glider continued just past my flight path, and then my recollection is that it pitched upwards and to the right and then collided, possibly with the left wing tip of the Tug Plane. At the time of the collision I saw a mass of fibre glass pieces in front of me; I was also aware that the Tug Plane had been turned about 90 degrees to the left, was in slightly nose down attitude, with about 15 degrees bank to the left. I was gaining on the Tug Plane and came very close to it. I could see the pilot looking towards the left wing tip. I could see some damage to the left wing tip, possibly with upward crumpling, perhaps as far inboard as the outer corner of the left Aileron.

By this time the glider had disappeared vertically downwards and I manoeuvred my glider to the right to avoid the debris whilst still trying to maintain a visual contact with both aircraft. I then commenced to turn to the left and I was able to see the glider descending vertically with a very steep nose down attitude, I can't really say if this craft was in a spin or not. I then saw this glider heavily impact with the ground in a very steep nose down attitude.

At about this stage I had lost sight of the Tug Plane and I had a brief conversation with my passenger relating to the whereabouts of the Tug Plane. We then continued to bank to the left but I could not see the Tug as it had impacted directly beneath my position. I then came into a position where I could see that the tow plane had impacted very heavily with the ground; demonstrated by the minimal spread of wreckage around the area.

My initial decision was to land my glider in the paddock near the Tug and I had a brief discussion with my passenger regarding this decision. On further inspection of the apparent softness of the paddock and the adjacent power lines and the compactness of the wreckage, I decided, based on previous experience in my medical profession, that the accident was not survivable and that a wiser course of action was to return to the airfield with my passenger while I still had sufficient height to reach it.

At this stage I radioed the gliding club and advised them of the accident however there was no reply, I now understand, they also had observed the accident and had left the radio area.

I carried out a modified minimal high speed circuit joining mid left base and landed as soon as possible at the airport.’

(Exhibit C22, p3-5)

- 2.7. The major exception is that when he gave oral evidence before me, Mr Blyth said that he had given the matter much thought in the intervening period, and that he now believes that Mr Sakamoto’s glider’s wingtip was only 8-10 metres from his wingtip, rather than the ‘less than 60 metres’ he estimated in his statement (T12). I have some reservations about this further estimate, since Mr Purvis, whose statement is consistent with Mr Blyth’s evidence in almost every detail, records that Mr Sakamoto’s glider was ‘about 4 times the distance as we were from the tow plane’ (exhibit C10a, p2).
- 2.8. Mr Blyth’s evidence on this point was not challenged, and I am sure that his belief is honestly held. It is always difficult to estimate distances in retrospect, when events happened so quickly and in such frightening circumstances.
- 2.9. I do not think that this is a particularly important issue. Clearly, Mr Sakamoto’s glider was approaching the combination from behind, from the right, and was flying at a high speed. While towing continued, neither Ms Irvine nor Mr Blyth were in a position to take urgent evasive action. The only pilot in that position was Mr Sakamoto. Gliders are extremely manoeuvrable (T33), and Mr Blyth said that Mr Sakamoto could have turned right even after he had called ‘Break right, break right’ over the radio, and the collision could have been avoided (T35).
- 2.10. The collision was witnessed by several people from the ground. Mark Morgan, the Chief Flying Instructor at the Waikerie International Soaring Centre, was preparing another aircraft when he heard Mr Blyth’s radio transmission ‘Break right, break right’. He saw the two aircraft ‘falling in the sky’ (exhibit C23, p1). He did not see the actual collision. He said:

‘I saw that Tug had a very nose down attitude. I could not see if it had any damage. It was in a slow left hand spin and rotated 360 degrees twice before it disappeared behind the tree line. My impression was that the glider was also rotating but I was concentrating principally on the Tug. The glider was in my vision also.

They both disappeared at about the same time. It was apparent that both planes were going to impact with the ground. From my extensive training and experience I believe that the Tug was in a 'classic spin' and that the Glider was in a near vertical position and appeared to be in a slow rotation. I did not notice any other aircraft in the area at the time.'

(Exhibit C23, p1-2)

2.11. Similar observations were made by Mark Stanley, another gliding instructor. He said:

'As the two aircraft descended I shifted my vision from one to the other, hoping the glider pilot would bail out. I focused on the plane and it appeared to be in good condition and I could not understand why she could not get out of the spin. I had actually taught the pilot of the plane, Samantha Irvine to fly gliders. As part of this instruction I had done quite a great deal of spin training with her. As she was a commercial pilot and experienced she recovered and completed these recovery manoeuvres with great confidence.

I then watched as both aircraft disappeared behind the tree line. I don't know who was flying the glider but I could tell, that it was a single seat, as the two seat glider has a longer canopy and the nose is longer.

I could faintly hear the engine of the plane prior to it disappearing behind the trees, it sounded like it was on quarter throttle, by my understanding this is part of the standard spin recovery technique for powered aircraft.'

Exhibit C8a, p2-3)

2.12. Messrs Morgan, Stanley and David Norman, the groundsman, rushed to the crash sites, but, as I have said, it was obvious that Ms Irvine and Mr Sakamoto were both dead by the time they arrived.

3. The investigation

3.1. As I have said, police and CFS personnel were on the scene soon after the crash, and the scene was guarded until the next day when officials of the Australian Transport Safety Bureau ('ATSB') attended. Their report is exhibit C24. Mr Alexander Hood, one of the authors of the report, gave evidence at the inquest.

3.2. The investigators conducted interviews with the various witnesses and took possession of log books.

3.3. Having regard to the evidence of Mr Blyth about the proximity of the aircraft, just before the collision, Mr Hood expressed the view that Mr Sakamoto was the only pilot of the three who had the opportunity to take any evasive action even if he had

heard Mr Blyth's warning to 'break right', but he doubted that he would have had sufficient time to do so in any event (T97).

- 3.4. Mr Hood defined the 'circuit area' of the airfield as a rectangular area around the runway which is established for the purpose of approaching to land. The size of the circuit depends on the type of aircraft being used. The regulations state that an aircraft should not turn until it has attained 500 feet altitude, and thereafter turns are made in the direction of the circuit (usually to the left), and in no other direction until the aircraft has attained 1500 feet, or until it is more than 3 nautical miles from the airfield (T98).
- 3.5. On that basis, this collision occurred either within, or very close to the circuit area of Waikerie airfield. The Waikerie Gliding Club, in accordance with the GFA Standard Operating Procedures (exhibit C24, p6), stipulate that a pilot should make a radio call to announce they are entering the circuit area (T99). Mr Sakamoto did not make such a call and he was under no legal duty to do so. On the same basis, Mr Sakamoto was only required to respond to Ms Irvine's call announcing that she was taxiing, ready for takeoff, if he considered it appropriate.
- 3.6. In their report, the investigators analysed the movement of the aircraft after Mr Blyth released the towline as follows:

'The Astir CS struck the towline approximately midway between the Pawnee and the Twin Astir catapulting it into collision with the Pawnee. The collision dislodged the tail of the glider and damaged the left wing of the Pawnee. Witnesses at the airfield, who heard the sound of the collision, saw the Astir CS descend almost vertically. They described the Pawnee's descent as a spin or spiral, completing at least one and a half rotations to the left before it disappeared from view. The pilot of the Twin Astir took avoiding action and returned safely to Waikerie. The wreckage of the Pawnee and the Astir CS were found in a field about 3km south of the airfield. Neither occupant of the two aircraft survived the collision and subsequent ground impact. The investigation did not find any pre existing defect with either aircraft that could have contributed to the collision.'

(Exhibit C24, p5)

3.7. Pilot experience and competence

In relation to Mr Sakamoto's experience and competence, the investigators found:

'The pilot of the Astir CS was a Japanese national who had arrived in Waikerie a week earlier to further his gliding experience and qualifications. He had received his initial training to solo standard in Japan. In the week before the accident he had received

further training at Waikerie during which he had made 14 instructional and familiarisation flights. His instructor reported that he had found it necessary to emphasise the need for the pilot to keep a continuous traffic lookout during those flights. The pilot of the Astir CS was issued with a Gliding Federation of Australia (GFA) validation and allowed to make solo flights. He had, as part of his training, undertaken a briefing and oral test required for the use of glider radio equipment on the CTAF.

His examiner for the test was also a Japanese national employed as a gliding instructor by the gliding organisation. The instructor reported that the accident pilot's understanding of the English language would probably not have been sufficient to understand the significance of the unaddressed 'Break right, break right' warning broadcast by the pilot of the Twin Astir. The pilot of the Astir CS was reported to have been well rested prior to the day's flying operations. Earlier that day he had completed a short flight in the same aircraft, returning due to the lack of thermal currents. A damaged pair of sunglasses was found in the wreckage of the Astir CS but it could not be determined if they were being worn at the time of the collision.'

(Exhibit C24, p5-6)

- 3.8. I heard evidence from Mr Mark Morgan, the Chief Flying Instructor at the time, and now the General Manager of the Waikerie Gliding Club. His job included the supervision of the instructors employed by the clubs in relation to the quality of training they gave to student pilots.
- 3.9. Mr Sakamoto's training instructor was Mr Michimiko Uchida, a Japanese national who was employed by Waikerie Gliding Club on a seasonal basis. He was a level 2, Australian-accredited instructor.
- 3.10. Mr Morgan told me that Mr Sakamoto had a total of 18 accompanied flights before he was considered sufficiently competent to fly solo. Two of those flights were with Mr Morgan, and 16 with Mr Uchida.
- 3.11. Mr Morgan told me that, since Mr Sakamoto did not have radio endorsement at the time he flew with him, Mr Morgan made all the radio calls (T58). He told me that it must be assumed from the fact that Mr Uchida allowed Mr Sakamoto to fly after his 16 accompanied flights, that he was competent in using the radio (T58). There is no written confirmation of this.
- 3.12. Mr Morgan told me that, during his two flights with Mr Sakamoto, he noticed:

'Yes, actually on the two flights I had with Mr Sakamoto, he actually displayed very poor lookout during his flight and I was, at the time, unable to ascertain to whether it was his previous training, primary training, or whether it was a situation where he was flying at a new airfield, with a different sort of aircraft, in a different country, different climate,

different instructors and the workload was just too much to start with, reminding you I only had two flights with Mr Sakamoto.’ (T59-60)

- 3.13. Mr Morgan said that Mr Uchida also told him that Mr Sakamoto did not display a good lookout in the early part of his retraining, and that this was the reason why he had so many accompanied flights (T60). Mr Morgan added that pilots training in Australia are expected to be able to complete an entire flight without reference to instruments, so that they are able to keep a constant lookout. This is not required for international pilots, however (T62).
- 3.14. Mr Morgan told me that there is no standard checklist, or list of core competencies, that are signed off by the instructor during training. He said that any comments of the instructor are entered into the pilot’s log book. Mr Hood, the ATSB investigator, has arranged for Mr Sakamoto’s logbook to be translated from Japanese and no such comments have been entered (see letter from Mr Hood dated 10 August 2001).
- 3.15. This seems unsatisfactory. Mr Morgan had no way of verifying that any of the pilots had satisfied a set of core competencies by checking a training record. The logbooks kept by Mr Sakamoto are in Japanese. He worked on the assumption that since Mr Uchida allowed Mr Sakamoto to fly solo, all requirements for training had been met. This is contrary to modern views of training and the accountability of trainers. It is not enough, in my view, for Mr Morgan to assert that he had total confidence in his instructors (see his evidence at T71). I accept that he did. But he must be able to verify that training which is being given at his airfield complies with properly-accepted standards by reference to records accurately endorsed by his instructors.
- 3.16. Separation of aircraft
The investigators pointed out that the area south of the airfield was known to be favourable for gliding due to the topography. However, this area encroached into the designated circuit area, resulting in aero-towing aircraft and gliders sharing the same airspace. This was permitted provided glider pilots monitored the Common Traffic Advisory Frequency (CTAF) and maintained adequate separation (at least 200 feet horizontally and vertically, according to the GFA Rules of the Air).
- 3.17. These principles are, of course, limited by the ability of the pilot to see other aircraft and avoid them. The investigators referred to a report prepared by the then Bureau of Air Safety Investigation (BASI) in 1991 which documented the limitations, both physiological and psychological, on the ability to see and avoid other aircraft. It

recommended that visual acquisition of information for collision avoidance should be a 'last defence' (exhibit C24, p7).

- 3.18. The investigators did observe that the Astir CS glider provided an 'unobstructed forward and upward view' which was better than that from either of the other two aircraft (exhibit C24, p7).
- 3.19. The conclusion of the investigators were as follows:

'Analysis

Aero towing operations from runway 26 resulted in a flight path through an area where there was at times a concentration of aircraft. On this occasion, the presence of at least two gliders either thermalling or about to join the circuit pattern for a landing, created an area of potential conflict with the towing combination. Although each aircraft was radio-equipped, the required traffic broadcasts did not provide their pilots with an awareness of each other's presence. Effective use of radio communication could have alerted them to a possible conflict. Instead of relying solely on visual acquisition of the other aircraft for collision avoidance, each pilot would have had an awareness of the proximity of the other aircraft and used that information to mutually resolve the conflict and aid visual separation.

The towing combination should have been readily visible to the pilot of the Astir CS at a distance far enough to allow adequate time for him to take avoiding action. However, the Astir CS was not seen to deviate from its flight path until just before colliding with the towline, suggesting that its pilot had not seen the towing combination until too late to avoid a collision. On more than one occasion during his training, the pilot of the Astir CS had been advised of the need to keep a continuous lookout by his instructor. Despite his training the pilot of the Astir CS did not see the towing combination.

The pilot of the Pawnee was responsible for traffic lookout and avoidance during the towing phase of the flight. It was possible that she had seen the other glider in the area but not the Astir CS. It had approached the towing combination from behind and would not have been in the Pawnee pilot's normal traffic scan. The unaddressed warning broadcast by the pilot of the Twin Astir may have conveyed a sense of danger to the pilot of the Pawnee. However, in the few seconds available to her it was unlikely that she would have been able to understand the significance of the warning and take appropriate avoiding action.

The pilot of the Twin Astir found himself in a situation for which there was no emergency procedure. His expectation that the pilot of the Astir CS would give way to the towing combination was not unrealistic. Confronted with an unexpected and rapidly developing dangerous situation, and without time to formulate any course of action, he reacted instinctively and broadcast an unaddressed warning. There was no obvious response from either pilot to this warning. The Twin Astir pilot, in releasing the towline when a collision between the Astir CS and the towline was unavoidable, saved his glider from also coming into collision with the other aircraft.

Significant Factors

Aero towing operations from Waikerie were conducted through areas where gliding activity resulted in traffic conflicts that relied solely on visual acquisition for separation.

Inadequate use of the CTAF by pilots for traffic alerting.

The collision warning broadcast by the pilot of the Twin Astir was not effective.

Traffic lookout by the pilot of the Astir CS was not effective.’

(Exhibit C24, p7-8)

- 3.20. The investigators pointed to five fatal mid-air collisions since 1986 which involved gliders and aero-towing aircraft where ‘unalerted traffic in a see-and-avoid environment’ was cited as a contributing factor. In nearly all cases the aircraft were radio-equipped, but the pilots either did not broadcast their intentions or did not respond to the transmissions of others. They pointed out that following an earlier investigation in 1997, the GFA responded:

‘The GFA recognises that the rate of mid-air collisions involving gliders is unacceptably high in the circuit areas of aerodromes and will implement measures to improve discipline in flying the pattern and making better use of the radio.’

(Exhibit C24, p9)

- 3.21. However, the investigators pointed out that:

‘Repeated emphasis to pilots to be more vigilant and maintain an effective lookout has not reduced the incidence of mid-air collisions in gliding activity. Implementing additional defences into a system that recognises and takes into consideration these limitations, such as a more effective use of radio for traffic information, conspicuity and traffic segregation can improve the level of safety.’

(Exhibit C24, p9)

- 3.22. Accordingly, the investigators made the following recommendations:

- ‘The Australian Transport Safety Bureau recommends that the Gliding Federation of Australia in conjunction with its member clubs incorporate the use of radio for effective traffic alerting into standard operating practices as a matter of priority.
- The Australian Transport Safety Bureau recommends that Civil Aviation Safety Authority review the assessment process for the issue of a radiotelephone operator certificate of proficiency or equivalent, as specified by Civil Aviation Regulations subregulation 83A(2) and subregulation 83E(1)(a) and establish competency standards for those applicants for whom English is a second language, especially in respect of a candidate’s ability to effectively communicate and comprehend traffic information.

- The Australian Transport Safety Bureau recommends that the Gliding Federation of Australia adopt measures to make all aircraft engaged in gliding activities more conspicuous.
- The Australian Transport Safety Bureau recommends that the Gliding Federation of Australia consider developing procedures that permit segregation of aero-towing and gliding activity.’

(Exhibit C24, p9)

When referring to making gliders more conspicuous, Mr Hood explained that he did not mean to limit that to visual conspicuity, but rather to suggest that there were other issues, such as electronic means, to enhance conspicuity (T100).

Mr Hood also acknowledged Mr Blyth’s argument that it is not possible to provide total segregation of gliders from towing aircraft, since it is always the job of the towing aircraft to take the glider into an area of thermal activity. However, he said that the rules should at least provide for separation, if not full segregation, of aircraft in that context, and when combined with appropriate use of the radio, the risks should be reduced (T105). I accept this evidence.

- 3.23. Having regard to the fact that Mr Sakamoto was approaching the aero-towing combination from behind and from the right, the aircraft should have been much easier to see than, for example, a single glider from the front or behind. That, combined with his failure to respond to Ms Irvine’s taxiing call on the CTAF when he should have known that he was approaching the circuit area, amounted to a significant departure from proper standards of aviation.
- 3.24. Mr Blyth pointed out that Mr Sakamoto could have been several kilometres away when Ms Irvine made the call and would not have perceived a potential conflict (T109). However, when he flew into the circuit area, having heard the radio call, he should have been aware that the towing combination would be in the vicinity, and used the radio to announce his presence. The relevant time was not when Ms Irvine made the call, it was when Mr Sakamoto flew into shared airspace (T109-111). What he failed to demonstrate was what Mr Coleman, Counsel for the ATSB, described as ‘situational awareness’ (T120).

4. **Conclusions**

- 4.1. Having regard to the evidence before me, I find that the collision which led to the deaths of Ms Irvine and Mr Sakamoto occurred because Mr Sakamoto failed to

become aware of the presence of the other aircraft by keeping an adequate lookout, even after he should have been alerted to their presence by Ms Irvine's radio transmission when taxiing for takeoff.

- 4.2. It is not now possible to determine whether language difficulties, or general lack of training in the use of the radio, may have led to this tragedy. Certainly, the evidence suggests that Mr Sakamoto had been counselled a number of times about his inadequate lookout, and we can only assume that he satisfied his instructor, Mr Uchida, that he had overcome these bad habits before he was permitted to fly solo. There is no documentation to substantiate this, however.
- 4.3. In the absence of evidence, I will assume in Mr Uchida's favour that Mr Sakamoto had improved before he was permitted to fly solo, and that he slipped back into bad habits on 2 March 1999 with tragic results.
- 4.4. As to the other issues, I agree with the ATSB investigators, and endorse the recommendations in their report, exhibit C24. In addition, I agree with the very sensible suggestion of Mr Irvine, Samantha's father, as follows:

I would like to see a daily record of training in the industry, signed off by the instructor, then countersigned by the chief instructor, that the record was accurate, in English' (T120).

I agree that it is not enough that specific pilot competencies, such as radio usage and adequate lookout, were assumed to be present by virtue of the fact that Mr Sakamoto was allowed to fly solo. A set of specific competencies should be drawn up and signed off by the instructor as a record of the training given.

5. Recommendations

- 5.1. Pursuant to Section 25(2) of the Coroner's Act, 1975, I make the following recommendations:
 - 'The Gliding Federation of Australia in conjunction with its member clubs should incorporate the use of radio for effective traffic alerting into standard operating practices as a matter of priority.
 - The Civil Aviation Safety Authority should review the assessment process for the issue of a radiotelephone operator certificate of proficiency or equivalent, as specified by Civil Aviation Regulations subregulation 83A(2) and subregulation 83E(1)(a) and establish competency standards for those applicants for whom English

is a second language, especially in respect of a candidate's ability to effectively communicate and comprehend traffic information.

- The Gliding Federation of Australia should adopt measures to make all aircraft engaged in gliding activities more conspicuous.
- The Gliding Federation of Australia should consider developing procedures that permit segregation of aero-towing and gliding activity.'
- That the Gliding Federation of Australia develop a checklist of core competencies for use in training glider pilots which should be acknowledged in writing, in English, as a permanent record that a particular pilot achieved a particular standard on a particular day, to the satisfaction of a particular instructor.

Key Words: Gliding; Aircraft Accident; Pilot Training

In witness whereof the said Coroner has hereunto set and subscribed his hand and

Seal the 21st day of August, 2001.

.....
Coroner

Inq.No. 17/01