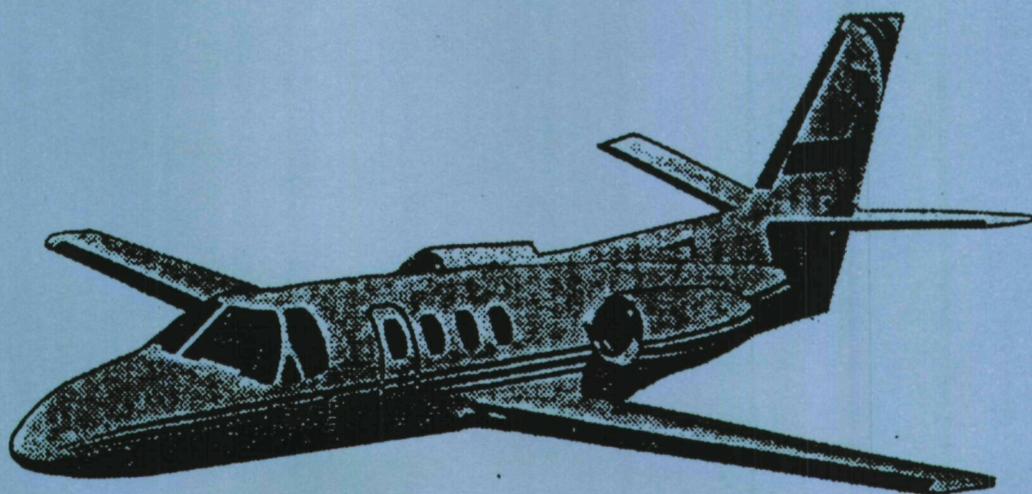


M. J. ...

**BUREAU OF AIR SAFETY INVESTIGATION  
REPORT**

**BASI REPORT B/901/1026**



**Air North Queensland Pty Ltd  
Cessna 500 Astec Eagle VH-ANQ  
11 May 1990**

**BASi**  
Bureau of Air Safety Investigation



**Transport and  
Regional Development**

Department of Transport and Communications

Bureau of Air Safety Investigation

## ACCIDENT INVESTIGATION REPORT

Air North Queensland Pty Ltd  
Cessna 500 Astec Eagle VH-ANQ  
15 kilometres south of Mareeba Airport, Queensland  
11 May 1990

Report B/901/1026



Released by the Director of the Bureau of Air Safety Investigation  
under the provisions of Air Navigation Regulation 283.

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**NOTES: All times shown are Australian Eastern Standard Time and are based on the 24-hour clock.  
Cover photo depicts aircraft type not the actual aircraft involved in the accident.**

## SYNOPSIS

At approximately 1740 hours on 11 May 1990, Cessna 500 Astec Eagle aircraft, registered VH-ANQ, crashed into the eastern slopes of Mt Emerald, Queensland.

VH-ANQ was engaged in operating a charter flight with one crew member and ten passengers. All occupants received fatal injuries as a result of the impact and the aircraft was destroyed.

### 1. FACTUAL INFORMATION

#### 1.1 History of Flight

Cessna 500 VH-ANQ was operating the Proserpine to Mareeba leg of a charter flight. The aircraft departed Proserpine at 1635 hours on 11 May 1990. It was being operated by Air North Queensland Pty Ltd, a Cairns based charter company.

The charter flight had been organised to transport members of five local government authorities from the Cairns/Atherton Tablelands area to a Local Government Association Conference at Airlie Beach, Queensland. The aircraft departed Cairns on the morning of 10 May 1990 and proceeded to Mareeba, to emplane further passengers, before continuing to the destination, Proserpine. The pilot and passengers remained at the conference facility overnight.

The pilot had submitted a flight plan, prior to departure from Cairns, for both the outbound flight to Proserpine and the return flight to Cairns. Late the following morning he submitted a further flight plan, by telephone, for the return flight to Cairns. The flight plan details, with the exception of the fuel endurance which had been increased to 177 minutes ex Proserpine, were the same as the previously submitted plan. The plan indicated that the flight would follow Instrument Flight Rules (IFR) and depart Proserpine at 1630 hours with a planned cruising altitude of Flight Level 330 (approximately 33,000 feet). The aircraft was planned to track via overhead Townsville then direct to Mareeba with a flight time interval of 68 minutes.

Departure from Proserpine was reported as 1635 hours and the aircraft was cleared to climb to Flight Level 330. The estimated arrival time at Mareeba was 1743 hours. The flight apparently continued normally and at 1726 hours the aircraft was cleared to descend to Flight Level 170 and instructed to call Cairns Approach. (Cairns Approach controls the airspace down to 6,000 feet above mean sea level above Mareeba Airport which has an elevation of 1,560 feet).

On first contact with Cairns Approach, the pilot advised that the aircraft was tracking for Mareeba via the 163 radial at 41 miles (76 kilometres) DME (Distance Measuring Equipment) from Bibohra. (There are no radio navigational aids at Mareeba, the nearest aids for tracking and instrument approach purposes are at Bibohra, about 16 kilometres north of Mareeba). The aircraft was advised to maintain Flight Level 170 but a short time later was cleared to descend to Flight Level 120. The pilot stated that he would not be closing down the engines at Mareeba and that his estimated departure time was 1750 hours.

At 1735 hours VH-ANQ was cleared to descend to 10,000 feet and one minute later the pilot advised that the aircraft was "approaching over Mareeba and visual". Cairns Approach advised VH-ANQ that there would be a short delay at 10,000 feet and following a request from the pilot gave approval for the aircraft to circle over Mareeba.

At 1740:22 hours, one minute and 14 seconds after the last transmission from VH-ANQ, Cairns Approach instructed the aircraft to descend to 7,000 feet. This transmission, and other subsequent transmissions to the aircraft, went unanswered.

The Civil Aviation Authority commenced Search and Rescue procedures. An aircraft operating in the area reported hearing the signal from an Emergency Locator Transmitter at about 1820 hours. However, the aircraft was unable to determine the exact location of the transmitter because of the adverse weather in the area.

The wreckage of VH-ANQ was ultimately located on the eastern slopes of Mt Emerald, 15 kilometres south of Mareeba Airport, by searching helicopters at 0240 hours on 12 May 1990.

## 1.2 Injuries to Persons

<i>Injuries</i>	<i>Crew</i>	<i>Passengers</i>	<i>Others</i>
Fatal	1	10	-
Serious	-	-	-
Minor/None	-	-	-
Total	1	10	-

## 1.3 Damage to Aircraft

The aircraft was destroyed.

## 1.4 Other Damage

No other property was damaged during the accident sequence.

## 1.5 Personnel Information

The pilot-in-command of the aircraft was aged 58 years and was the Managing Director of Air North Queensland Pty Ltd. He held a Senior Commercial Pilot Licence which was current to 31 July 1990. This licence was appropriately endorsed to allow him to act as pilot in command of Cessna 500 type aircraft. He was also the holder of a Command Instrument Rating and a Grade One Instructor Rating. The pilot's total flying experience at the time of the accident could not be positively determined as his Pilot's Log Book was not recovered. A perusal of the aircraft log book for VH-ANQ would suggest that his experience on the Cessna 500 type was in excess of 1,000 hours. His most recent proficiency check was the renewal of his Grade One Instructor Rating on 24 April 1990. At this time he indicated his total flying experience was 14,150 hours. His most recent instrument rating test had been conducted on 15 November 1989, and he had completed an aviation medical examination on 1 December 1989. There were no anomalies noted at that examination. The pilot was required to wear corrective lenses.

In the three days prior to the accident the pilot had only a light schedule and on the day of the accident he proceeded to the airport to prepare for the flight at about 1400 hours.

The pilot had been involved in the aviation industry for approximately 40 years. In that time he had been associated with various flying instruction, charter and airline operations, both in Australia and overseas. Following the accident the pilot had been the subject of adverse comments and reports in the media. A profile of the pilot's career was carried out and little substantiation of the rumours surrounding his operating procedures could be found. It appeared that the pilot had a strong extraverted personality, and opinion of him varied according to the working relationship between him and each individual.

## 1.6 Aircraft Information

### 1.6.1 History

VH-ANQ was manufactured by the Cessna Aircraft Company in 1975 and was allotted the manufacturer's serial number 500-0283. In May 1986 it was imported and issued with the appropriate Australian Certificate of Airworthiness. The aircraft was owned and operated by Air North Queensland Pty Ltd. It had not been previously involved in any accidents.

The aircraft was equipped with two United Aircraft of Canada Ltd JT15D-1A turbofan engines. It had a maximum design takeoff weight of 5,670 kilograms and was approved to carry a total of 11 persons, including the pilot.

### **1.6.2 Loading**

The takeoff weight and position of the centre of gravity of the aircraft could not be accurately determined due to the lack of information on the load carried and its distribution in the aircraft on departure from Proserpine. The seating position of the occupants could not be determined. However, the aircraft apparently operated normally for the major section of the flight and there is no reason to suspect that it was not loaded within the prescribed limits.

### **1.6.3 Fuel considerations**

The pilot advised that the endurance of the aircraft on departure from Proserpine was 177 minutes. It was calculated that this was sufficient fuel for the planned flight. At impact, it is estimated that some 430 kilograms of fuel would have been contained in the aircraft tanks. Evidence of fire at the accident site was an indication that a significant amount of fuel was on the aircraft at impact.

### **1.6.4 Maintenance and serviceability**

There was a current Certificate of Airworthiness and a valid Maintenance Release for the aircraft. However, the original copy of the Maintenance Release, which is required to be carried in the aircraft, was not found. Because of this, no comment can be made regarding the serviceability of the aircraft at the commencement of the flight.

## **1.7 Meteorological Information**

The route flown by the aircraft and the area of the accident were under the influence of a moist south-easterly airstream. Analysis of the meteorological situation at the time indicated that there was scattered cloud and rain along the coast and adjacent high ground.

The low stratus cloud was assessed to have a base of 1,000/1,500 feet in precipitation with broken cumulus cloud from 2,000/3,000 feet to a top of 14,000 feet. There were layers of scattered altocumulus between 10,000 and 24,000 feet with further layers of cirrus above. The wind velocity at Flight Level 185 was 250 degrees/10 knots, Flight Level 140 Variable/5 knots, at 10,000 feet 110 degrees/20 knots and at 5,000 feet 110 degrees/25 knots. The general visibility in the area was 20 to 40 kilometres but was reduced to 3,000 metres in precipitation. The area QNH was 1,009 hectopascals.

Witnesses in the area of the accident site reported low cloud with a strong south-easterly wind and heavy rainshowers. A pilot overflying Biboohra reported that the cloud tops in the Mareeba area were 11,000 feet with a base of 6,500 feet.

## **1.8 Aids to Navigation**

The nearest ground based aids to the accident site are located at Biboohra. These aids are a VHF Omni Range (VOR) and a DME. These were operating normally at the time of the accident and no anomalies were reported by other aircraft interrogating the aids. Subsequent flight tests confirmed that the aids were operating correctly and were within tolerances.

## **1.9 Communications**

All transmissions to and from the aircraft were made on the correct frequencies and neither the pilot or air traffic controllers reported any difficulty with communications until the aircraft failed to reply to instructions concerning further descent.

## 1.10 Aerodrome Information

Mareeba Airport is located eight kilometres south of Mareeba township and is owned by the Mareeba Shire Council. The aerodrome is 1,560 feet above mean sea level and has a single runway which is 1,505 metres in length. It is serviced by a VOR/DME instrument approach utilising the Bibochra VOR and DME, and has lights available for night operations.

## 1.11 Flight Recorders

The aircraft was not equipped, nor required to be equipped, with any flight recording device.

## 1.12 Wreckage and Impact Information

### 1.12.1 Wreckage disposition

The wreckage of the aircraft was spread over an area of approximately six hundred metres in length from a point just to the east of the summit of Mt Emerald. Mt Emerald is located 15 kilometres south of Mareeba Airport.

The aircraft initially impacted the mountainside with the left wingtip, while travelling on a track of about 340 degrees Magnetic. At the time it was in a wings level attitude at an angle of descent of eight degrees. It then struck the ground just below the apex of a ridge and the wreckage spread in a fan shape, at an angle of 30 degrees, along a centreline track of 350 degrees Magnetic. This is indicative of a high speed impact and the groundspeed of the aircraft at the point of impact was estimated to be about 240 knots. The aircraft was broken into numerous pieces, the largest being the engines, the right wing and a section of the empennage comprising of the fin, rudder and most of the tailplane and elevators.



The terrain in the area of impact was mountainous with grass tufts and small scrub on the ridge tops and trees in the re-entrants. The area was only accessible by foot or helicopter.

## 1.13 Medical and Pathological Information

### 1.13.1 Medical reports

Records maintained by the Civil Aviation Authority, Aviation Medicine Branch, showed that the pilot had no recent medical conditions that were likely to have had any influence on his ability to operate the aircraft. Some 17 years previously he had suffered from back pain, this condition was treated by an operation at the time and there had been no significant problems since.

### 1.13.2 Pathology

Pathological examination of the victims did not reveal any pre-impact injury or illness likely to have had an effect on the operation of the aircraft. Nor was there any evidence of explosive overpressures, and tissue damage was consistent with that suffered from violent mechanical disruption. Levels of chloroquine found in the pilot were consistent with him taking anti-malarial prophylaxis and would have had no relevance to the accident.

## 1.14 Fire

There was no evidence of pre-impact fire. There was a post-impact fire which scorched an area of approximately 60 metres by 40 metres downwind of the main impact point. The fire was most likely extinguished by the prevailing strong wind. There was also an area of fire around the final resting place of the right wing and several of the other aircraft components exhibited signs of fire.

## 1.15 Survival Aspects

This accident was not survivable.

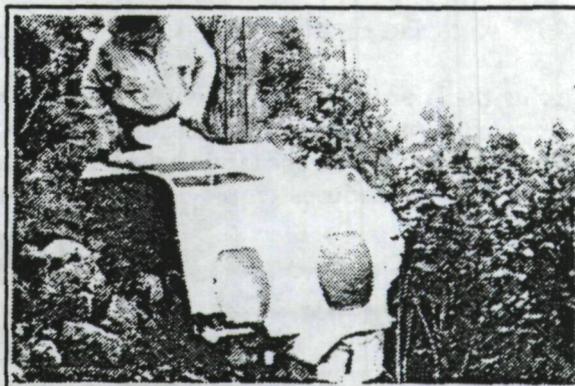
## 1.16 Tests and Research

### 1.16.1 Global Navigation System (GNS)

The aircraft was fitted with a GNS-500 series 3 system. This system is intended for enroute navigation. The checklist for VH-ANQ required that at Flight Level 110, on descent, track guidance would revert from the use of the GNS to the VOR. In an attempt to determine the performance of a GNS system, in the vicinity of the accident site and at altitudes below 10,000 feet, tests were conducted using an aircraft fitted with a GNS similar to that fitted to VH-ANQ.

The aircraft was set up to fly a descent profile similar to that flown by VH-ANQ on the day of the accident. Position reports given by the pilot of VH-ANQ to air traffic control were used to estimate the descent profile. The test flight concluded that there appeared to be no discernible effect on GNS information below 10,000 feet and that there was no significant variation between GNS track and VOR track.

Some components of the GNS were recovered from the accident site. Damage to these components was such that the operational status of the GNS prior to the impact could not be determined.



### 1.16.2 Instruments

Examination of the scrolls from the pilot's altitude indicator showed that it read 3,520 feet at impact with a barometric scale reading of 1,013 hectopascals.

On the co-pilot's altimeter the thousand foot tumbler indicated a reading of between two and three (two or three thousand feet) and the hundred foot tumbler indicated a reading of five (five hundred feet). No other information was available from the instrument but the indication was that it read either 2,500 feet or 3,500 feet at impact.

No other significant information was available from the examination of other recovered instruments.

### 1.16.3 Annunciator Panel Lights

A section of the annunciator panel which contained several of the engine systems warning lamps was recovered and the light bulb filaments were inspected. Four of the bulbs which referred to the left engine appeared to have been illuminated, indicating that the referenced system was not operating. These systems were; "Left oil pressure-low", "Left fuel pressure-low", "Left engine ice failure" (engine de-icing equipment) and "Left firewall (fuel) shut off". However, this evidence is contrary to metallurgical inspection of the left engine which concluded that the engine was operating at impact. The probable reason for this apparent inconsistency is that the left engine separated from the airframe prior to electrical power being cut to the annunciator panel.

## **1.16.4 Engines**

Both engines were recovered from the accident site. Initial inspection found both were capable of operation and were rotating at impact. Subsequent metallurgical testing determined that both engines were operating at impact. However, no estimate of the amount of thrust being developed could be made, although damage to the rotating assemblies was indicative of low power settings.

## **1.17 Additional Information**

### **1.17.1 Witness Information**

Several persons in the Atherton area reported hearing the aircraft and one reported seeing a twin-engined jet aircraft. None of these reports could definitely be confirmed to have related to VH-ANQ. Only one of the reports was able to reasonably accurately establish the time of hearing. Using this report it was estimated that the earliest time of impact would have been 1740:19 hours. None of the reports received from the witnesses gave information of any specific problem with the aircraft that may have contributed to the accident.

### **1.17.2 Air traffic control procedures**

During the later stages of its flight VH-ANQ was under the control of Cairns Approach. At the time the Approach Controller was also controlling three other aircraft which were inbound to Cairns from the south and south-west. The tracks and levels of these aircraft resulted in descent restrictions being placed on VH-ANQ. The procedures employed by the controller were sound and in accordance with prescribed instructions.

### **1.17.3 Sabotage**

During the investigation suggestions had been made that the life or lives of one or more of the occupants of the aircraft had been threatened. An explosives specialist conducted an inspection of the wreckage and the area surrounding the flight path, immediately prior to the point of impact. He concluded that there was no evidence to suggest that an explosion had occurred during the flight or immediately prior to impact.

### **1.17.4 Aircraft descent profile**

There are three descent profiles given in the Aircraft Operating Manual; a 2,000 feet per minute descent, a 3,000 feet per minute descent and a highspeed 3,000 feet per minute descent.

Comparison of time and DME distances given by the pilot to air traffic control during the descent into Mareeba suggests that the pilot had adopted a highspeed 3,000 feet per minute descent.

### **1.17.5 Aircraft lateral position**

On the day prior to the accident, when the pilot reported the overhead Townsville position, enroute Mareeba to Proserpine, he was advised by air traffic control that the aircraft was four miles to the right (west) of track. The pilot, apparently after checking his instruments, advised that the VOR was correct but that the GNS was "out a bit".

When the pilot first contacted Cairns Approach during the descent into Mareeba he advised that VH-ANQ would be tracking via the 163 radial of the Biboohra VOR. However, the impact site on Mt Emerald is approximately three nautical miles (5.5 kilometres) to the left (west) of the nominated track.

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## 2. ANALYSIS

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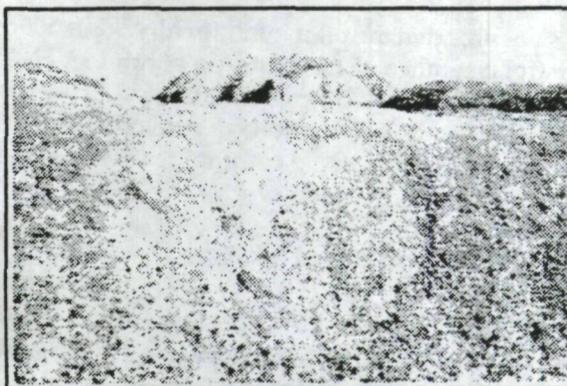
### 2.1 General

The investigation of this accident was hampered by a lack of substantiated information. This was in part due to a lack of evidence available from the aircraft wreckage, and the limited amount of witness information available concerning the flight path prior to impact. As a result, analysis can be based on little actual proven fact.

### 2.2 Aircraft Position

Prior to contacting Cairns Approach the pilot had diverted from his planned track of 319 degrees Magnetic to the 163 radial (a track of 343 degrees Magnetic). The reason for this diversion was not given by the pilot and could not be established, however, that radial does correspond with a track which aligns with the Atherton-Mareeba road and railway line. These features coincide with the lower terrain between the high ground in the Mt Emerald area and the high ground around Tinaroo Falls Reservoir, and as such, would offer a better opportunity to establish the aircraft below cloud for an approach to Mareeba.

The last positive position report received from the pilot indicated that the aircraft was 23 DME from Bibbohra (about 6 miles from the accident site) at 10,000 feet. Some 41 seconds after this report he advised that the aircraft was "approaching over Mareeba". The pilot was instructed to maintain 10,000 feet, and in answer to his request the aircraft was cleared to circle Mareeba. When the progress of the flight is analysed it is considered that there was insufficient time for the aircraft to have commenced circling Mareeba or in fact to have reached overhead Mareeba.



The last recorded transmission made by the pilot "how long for" was made approximately one minute after he reported at 10,000 feet and approximately one minute before the estimated time of impact. This "how long for" transmission refers to the period of time the aircraft would be required to maintain 10,000 feet before receiving a descent clearance. For the aircraft to have descended from the last cleared altitude, following this transmission, to the impact site the rate of descent required would have exceeded 6,000 feet per minute, twice that given on the "Highspeed Descent Profile Chart" and in excess of twice that the aircraft had achieved during the initial descent from cruising level. It would therefore appear unlikely that a descent rate of this magnitude would be undertaken as a deliberate action by the pilot. This then raises a number of possibilities.

### 2.3 Atmospheric Disturbance

At the time a south-easterly airstream influenced the weather conditions over the route from Proserpine and in the area of the accident. The airstream was not reported to have had any associated thunderstorm activity and vertical development of the cloud was not extensive. Wind strength in the area, while relatively moderate at lower levels, would not have been expected to create any significant shear.

It is therefore considered unlikely that any atmospheric disturbance had an effect on the operation of the aircraft. The most likely effect of the prevailing weather was that the amount of cloud in the Atherton area denied the pilot an early view of the ground.

### 2.4 Aircraft Malfunction

A complete inspection of the aircraft was not possible due to the level of disintegration. However, explosive destruction was discounted, the engines were operating at the time of impact and no transmission was received from the pilot to indicate there was any malfunction that may have affected the operation of the aircraft.

## 2.5 Pilot Status

The pilot was apparently in good health. His radio communications did not suggest anything to the contrary. Nothing in the pilot's recent history suggested that he was experiencing any acute psychological or physiological condition.

## 2.6 Control Interference

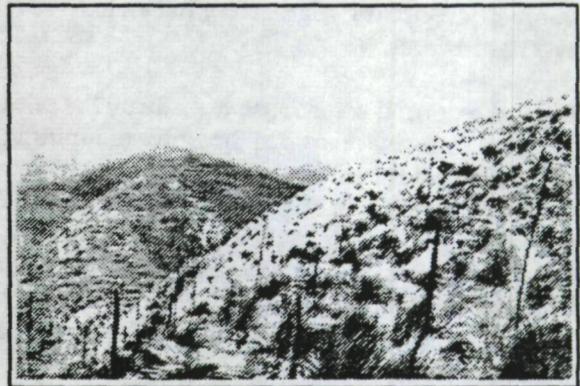
The possibility was considered, either as a deliberate action by one of the passengers or an involuntary action as a result of a medical condition. While such an occurrence cannot be excluded there was no evidence, in the form of radio transmissions, acute angles of impact or medical reports to support such a hypothesis.

## 2.7 Unauthorised Descent

It is possible that the pilot intentionally descended the aircraft below the assigned level without an air traffic control clearance. The clearance given to VH-ANQ was designed to maintain separation between that aircraft and others on crossing tracks. It was in accordance with prescribed instructions to air traffic controllers and would not have proved overly restrictive to the operation of VH-ANQ. The pilot of VH-ANQ should, from radio communications, have been aware of the traffic situation.

## 2.8 Variation in Lateral Position

The pilot had reported that the aircraft was tracking on the 163 radial, however, the impact site is three nautical miles (about 5.5 kilometres) west of the nominated track. Again, the reason for this variance from a nominated position could not be determined. There are several possible explanations including an error in the onboard navigational equipment, the VOR or GNS, or a deliberate course change by the pilot possibly to avoid cloud or obtain visual contact with the ground. The ground based VOR equipment was checked and was operating correctly and other aircraft that were interrogating it at the time did not report any faults. As stated earlier the onboard aircraft equipment could not be checked because



of impact damage, however, on the flight from Mareeba on the previous day the aircraft was off track on passing Townsville and the pilot, when questioned at the time, reported that the GNS was "out a bit". The reason for this error could not be determined and could have related to either pilot induced errors or an equipment fault. The aircraft did have a history of GNS tracking problems over six months beforehand but these were not able to be reproduced during maintenance and no record of recent errors was found.

The evidence in this investigation is inconclusive and the cause remains undetermined.

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### **3. CONCLUSIONS**

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#### **3.1 Findings**

- 3.1.1 The pilot was correctly licenced, qualified and experienced to undertake the flight.
- 3.1.2 There was no evidence that the pilot suffered any sudden illness of incapacity which may have affected his ability to control the aircraft.
- 3.1.3 No evidence was found to indicate that the pilot was experiencing any acute psychological or physiological condition at the time of the accident.
- 3.1.4 Undocumented anecdotal stories circulating about the pilot's behaviour could not be substantiated.
- 3.1.5 The aircraft was correctly certificated for the flight.
- 3.1.6 The observed damage to the aircraft was consistent with impact forces.
- 3.1.7 All aircraft extremities and control surfaces were identified at the aircraft site.
- 3.1.8 There was a significant quantity of fuel onboard the aircraft at impact.
- 3.1.9 The aircraft was not the subject of any explosive device.
- 3.1.10 There was no evidence to suggest that the aircraft was not capable of normal operation at the time of the accident.
- 3.1.11 The aircraft was given descent instructions in relation to other aircraft crossing its track. These instructions were reasonable and in accordance with prescribed procedures.
- 3.1.12 It is unlikely that any meteorological conditions contributed to the accident.

#### **3.2 Relevant Events and Factors**

This accident was unusual in that the last report by the pilot indicated that the aircraft was at 10,000 feet and on a track that was 5.5 kilometres to the east of the accident site. There was no substantiated, and very little circumstantial evidence to suggest what caused the aircraft to descend 6,400 feet and to be displaced a considerable distance to the west of track. As a result the causal factors associated with this accident remain undetermined.



# APPENDIX 1

1. TRANSCRIPT OF RECORDED COMMUNICATIONS  
CONCERNING CESSNA CITATION AIRCRAFT VH-ANQ  
DURING THE PERIOD  
9005100035 TO 9005100037 UNIVERSAL CO-ORDINATED TIME  
AND  
9005110630 TO 9005110740 UNIVERSAL CO-ORDINATED TIME

## LEGEND

- APP - Cairns Approach / Aerodrome Controller
- FS3 - Townsville Flight Service Sector Three Operator
- CON - Townsville Sector and Area Controllers
- ANQ - Cessna 500 Eagle aircraft registered VH-ANQ
- TAK - Boeing 737-376 aircraft registered VH-TAK
- CZB - Boeing 737-377 aircraft registered VH-CZB
- FCG - Embraer EMB110-P1 aircraft registered VH-FCG
- FDS - Beech 65-B80 aircraft registered VH-FDS
- TFW - Cessna 441-C aircraft registered VH-TFW
- SGT - Beech 200 aircraft registered VH-SGT
- BNR - Cessna 310-R aircraft registered VH-BNR

## SYMBOL DECODE

- ? - Unidentified Source Addressee
- (—) - Unintelligible Word(s)
- /// - Explanatory Note or Editorial Insertion
- () - Words open to other interpretation
- \*
- ..... - Significant Pause (one dot per second)

TIME	FROM	TO	TEXT
0035.13	CON	ANQ	ALPHA NOVEMBER QUEBEC request your over Townsville position
20	ANQ	CON	ALPHA NOVEMBER QUEBEC (by)
37	ANQ	CON	ALPHA NOVEMBER QUEBEC Townsville three five flight level three three zero Proserpine five five
48	CON	ANQ	ALPHA NOVEMBER QUEBEC roger and for information by radar you're four miles right of track
54	ANQ	CON	ALPHA NOVEMBER QUEBEC
0036.14	ANQ	CON	ALPHA NOVEMBER QUEBEC either your radar's wrong or both the VOR and omega is wrong

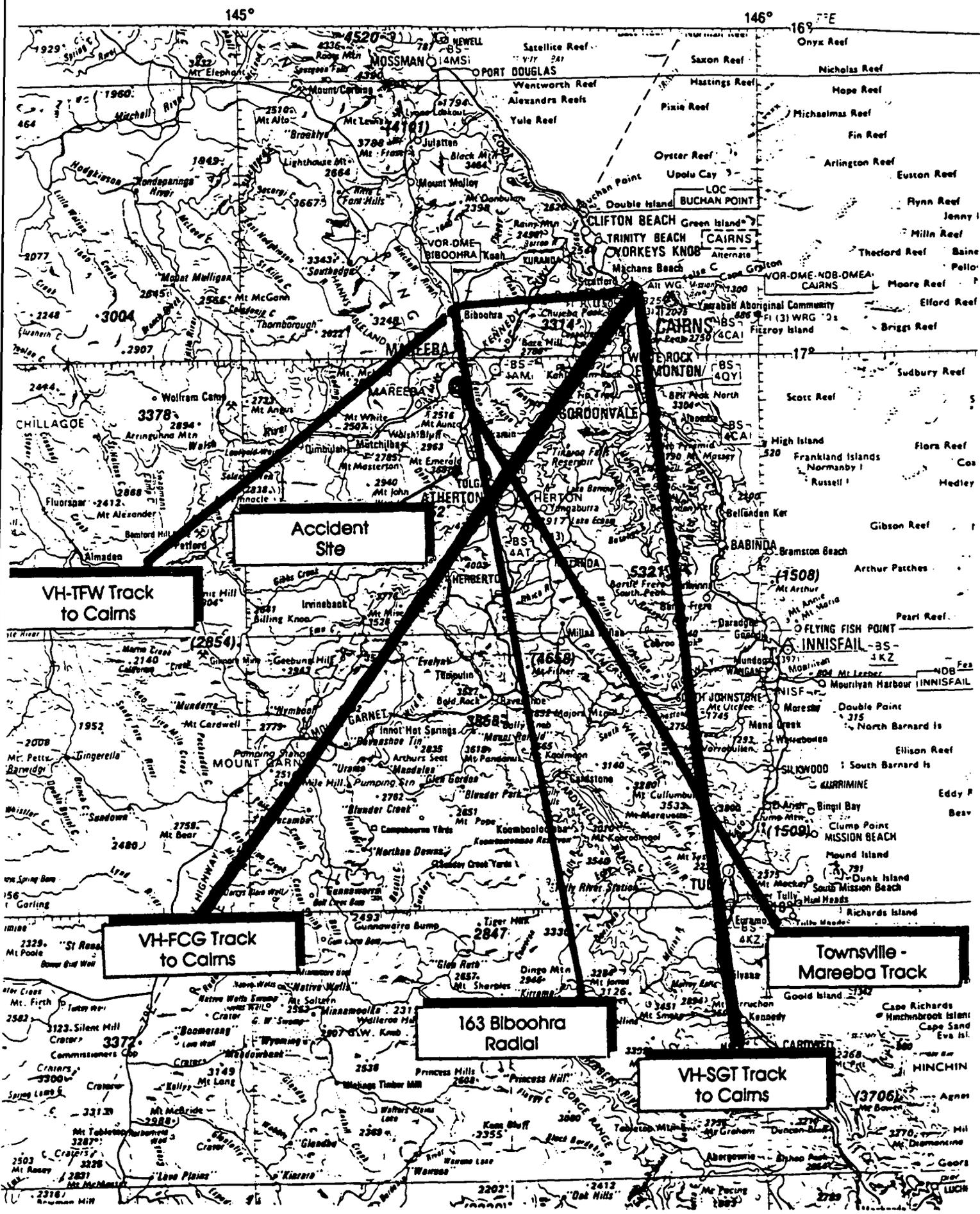
TIME	FROM	TO	TEXT
23	CON	ANQ	ALPHA NOVEMBER QUEBEC roger unfortunately sir all other aircraft have been on track so I'd say it's your omnis rather than our radar
31	ANQ	CON	okay well I'm tracking one one eight
36	CON	ANQ	yeah ALPHA NOVEMBER QUEBEC roger from ah by radar your outbound track one two five
0037.04	ANQ	CON	okay thanks the VOR's okay yes my GNS was out a bit
10	CON	ANQ	ALPHA NOVEMBER QUEBEC roger due traffic track outbound one two zero from the VOR
15	ANQ	CON	ALPHA NOVEMBER QUEBEC
Communications on 11 May 1990			
0726.21	CON	ANQ	ALPHA NOVEMBER QUEBEC when ready descend to flight level one seven zero
24	ANQ	CON	ALPHA NOVEMBER QUEBEC one seven zero
0731.09	CON	ANQ	ALPHA NOVEMBER QUEBEC you on descent
11			// brief carrier wave //
19	CON	ANQ	ALPHA NOVEMBER QUEBEC CONTROL are you on descent
22	ANQ	CON	ALPHA NOVEMBER QUEBEC I say again left three three zero
25	CON	ANQ	oh two in together there roger contact CAIRNS APPROACH on one one eight decimal four
31	ANQ	CON	ALPHA NOVEMBER QUEBEC  // all transmissions on Cairns Approach frequency are recorded from this point to completion of the transcript //
0732.02	SGT	APP	CAIRNS APPROACH SIERRA GOLF TANGO is four two DME received information November and request to track one five five direct Cairns to avoid weather
20	SGT	APP	correction one six five omni radial
30	CZB	APP	CHARLIE ZULU BRAVO left one zero thousand
32	ANQ	APP	// transmission started during previous transmission // BEC on descent to one seven zero
36	APP	SGT	SIERRA GOLF TANGO roger descend to six thousand five hundred track on the one six five Cairns omni radial and report approaching six thousand five hundred with DME
48	SGT	APP	GOLF TANGO six thousand five hundred on the one five five radial
55	APP	CZB	CHARLIE ZULU BRAVO report DME distance
57	CZB	APP	CHARLIE ZULU BRAVO one niner DME left flight level one one zero
0733.02	APP	CZB	CHARLIE ZULU BRAVO
04	FCG	APP	CAIRNS APPROACH good afternoon FOXTROT CHARLIE GOLF three three DME inbound on the two zero niner omni maintaining niner thousand in cloud with November requesting descent
19	FDS	APP	FOXTROT DELTA SIERRA's maintaining three thousand
23	APP	FDS	FOXTROT DELTA SIERRA
25	TAK	APP	TANGO ALPHA KILO's left six thousand

TIME	FROM	TO	TEXT
30	APP	FCG	FOXTROT CHARLIE GOLF CAIRNS APPROACH descend when ready to five thousand seven hundred track on the two zero nine Cairns omni radial report approaching five thousand seven hundred with in-flight conditions
0733.43	FCG	APP	FOXTROT CHARLIE GOLF five thousand seven hundred
47	TAK	APP	TANGO ALPHA KILO
48	APP	FDS	FOXTROT DELTA SIERRA track now direct to the field cruise three thousand it will be runway one five surface conditions unchanged since your departure
57	FDS	APP	FOXTROT DELTA SIERRA three thousand
59	ANQ	APP	CAIRNS APPROACH good afternoon ALPHA NOVEMBER QUEBEC tracking for Mareeba via the one six three radial four one DME Biboohra on descent to one seven zero
0734.19	APP	ANQ	ALPHA NOVEMBER QUEBEC CAIRNS APPROACH maintain flight level one seven zero be a short delay due crossing traffic
26	ANQ	APP	ALPHA NOVEMBER QUEBEC one seven zero
30	APP	CZB	CHARLIE ZULU BRAVO TANGO ALPHA KILO report in turn DME
32	ANQ	APP	// transmission started during previous transmission by approach // when I'll be allowed to descend
34	APP	CZB	CHARLIE ZULU BRAVO TANGO ALPHA KILO report in turn DME
39	TAK	APP	TANGO ALPHA KILO one two DME
43	APP	CZB	CHARLIE ZULU BRAVO DME distance
45	CZB	APP	CHARLIE ZULU BRAVO three zero DME
50	APP	TAK	TANGO ALPHA KILO climb to and maintain flight level one two zero
55	TAK	APP	TANGO ALPHA KILO flight level one two zero
59	TFW	APP	(TOWER) good'ay TANGO FOXTROT WHISKY one three DME Biboohra on the Biboohra two two five omni radial on descent to one zero thousand approaching cloud with November
0735.09	APP	FCG	FOXTROT CHARLIE GOLF report present level
13	FCG	APP	CHARLIE GOLF eight thousand six hundred two six DME
24	APP	TFW	TANGO FOXTROT WHISKY descend to six thousand cancel clearance limit Biboohra from Biboohra track direct to Cairns report appr correction report at Biboohra
36	TFW	APP	TANGO FOXTROT WHISKY six thousand
38	APP	SGT	SIERRA GOLF TANGO present (al) present flight level
41	SGT	APP	SIERRA GOLF TANGO's left flight level one one five two six DME
49	APP	ANQ	ALPHA NOVEMBER QUEBEC descend to flight level one two zero
52	ANQ	APP	ALPHA NOVEMBER QUEBEC one two zero and ah I won't be closing down at Mareeba I'm just letting a couple of passengers off with a set course time of five zero please
0736.04	APP	ANQ	ALPHA NOVEMBER QUEBEC will advise
08	APP	CZB	CHARLIE ZULU BRAVO TANGO ALPHA KILO report in turn DME
11	CZB	APP	CHARLIE ZULU BRAVO three niner DME
14	TAK	APP	TANGO ALPHA KILO one six DME approaching one two zero
21	APP	TAK	TANGO ALPHA KILO climb now to flight level three three zero

TIME	FROM	TO	TEXT
24	TAK	APP	TANGO ALPHA KILO flight level three three zero
27	APP	CZB	CHARLIE ZULU BRAVO TANGO ALPHA KILO call TOWNSVILLE CONTROL in turn on one two niner decimal zero
35	CZB	APP	CHARLIE ZULU BRAVO
37	TAK	APP	TANGO ALPHA KILO good'ay
38	APP	TAK	good'ay
40	BNR	APP	BRAVO NOVEMBER ROMEO left seven thousand five hundred approximately three five miles
47	APP	BNR	BRAVO NOVEMBER ROMEO roger report approaching five thousand six hundred with in flight conditions
51	BNR	APP	BRAVO NOVEMBER ROMEO
53	APP	TFW	TANGO FOXTROT WHISKY DME Biboohra
55	TFW	APP	TANGO FOXTROT WHISKY five west
58	APP	TFW	TANGO FOXTROT WHISKY report east of Biboohra
0737.01	TFW	APP	FOXTROT WHISKY
03	APP	FDS	FOXTROT DELTA SIERRA present DME
05	ANQ	APP	two eight DME Biboohra
07	FDS	APP	// transmission started during reply by ANQ // DME and we'll require descent shortly to maintain VMC
13	APP	FDS	FOXTROT DELTA SIERRA make a visual approach left base one five
18	FDS	APP	FOXTROT DELTA SIERRA's left three thousand
20	APP	FDS	FOXTROT DELTA SIERRA
22	ANQ	APP	ALPHA NOVEMBER QUEBEC at one two zero at two seven DME Biboohra
26	APP	TFW	TANGO FOXTROT WHISKY SIERRA GOLF TANGO report in turn present level
30	TFW	APP	TANGO FOXTROT WHISKY seven thousand seven hundred
33	SGT	APP	SIERRA GOLF TANGO's approaching eight thousand six left eight thousand six hundred
41	APP	ANQ	ALPHA NOVEMBER QUEBEC descend to one zero thousand area QNH one zero zero niner
47	ANQ	APP	ALPHA NOVEMBER BEQ one zero thousand
53	APP	TAK	TANGO ALPHA KILO contact arrivals correction contact TOWNSVILLE CONTROL one two niner decimal zero
0738.05	APP	SGT	SIERRA GOLF TANGO DME
07	ANQ	APP	// transmission started during previous transmission // zero thousand at two three DME Biboohra
10	APP	SGT	SIERRA GOLF TANGO DME
12	SGT	APP	SIERRA GOLF TANGO's one six DME
16	APP	SGT	SIERRA GOLF TANGO your in flight conditions
18	SGT	APP	SIERRA GOLF TANGO IMC at present
21	APP	SGT	SIERRA GOLF TANGO roger track across to the one five three radial report established

TIME	FROM	TO	TEXT
28	SGT	APP	SIERRA GOLF TANGO one five three radial
31	TFW	APP	TANGO FOXTROT WHISKY maintaining six thousand one eight Cairns east of Biboohra
35	APP	TFW	TANGO FOXTROT WHISKY roger descend to four thousand five hundred and you can expect to get visual about within five DME from the field
45	TFW	APP	TANGO FOXTROT WHISKY four thousand five hundred we're visual now
48	ANQ	APP	ALPHA NOVEMBER QUEBEC approaching over Mareeba and visual
53	APP	ANQ	ALPHA NOVEMBER QUEBEC roger there'll be a short delay maintain one zero thousand
58	ANQ	APP	ALPHA NOVEMBER QUEBEC one zero thousand and I'll circle over Mareeba shall I
0739.04	APP	ANQ	ALPHA NOVEMBER QUEBEC yes that's approved
08	ANQ	APP	how long for
09	APP	ANQ	I will advise
13	TFW	APP	TANGO // mike keyed // approaches four thousand five hundred one six DME visual
17	APP	TFW	TANGO FOXTROT WHISKY make visual approach right base runway one five report passing Stony Creek
22	TFW	APP	TANGO FOXTROT WHISKY
25	APP	FCG	FOXTROT CHARLIE GOLF SIERRA GOLF TANGO report in turn DME
28	FCG	APP	CHARLIE GOLF one two
30	SGT	APP	SIERRA GOLF TANGO's one two
35	APP	SGT	SIERRA GOLF TANGO what radial are you crossing now
39	SGT	APP	SIERRA GOLF TANGO standby
43	APP	FCG	FOXTROT CHARLIE GOLF present altitude
45	FCG	APP	CHARLIE GOLF six thousand two hundred
49	APP	FCG	FOXTROT CHARLIE GOLF roger amend descent instructions maintain six thousand
54	FCG	APP	FOXTROT CHARLIE GOLF six thousand
56	APP	SGT	SIERRA GOLF TANGO present altitude
59	SGT	APP	SIERRA GOLF TANGO six thousand five hundred we're just coming visual now
0740.06	APP	SGT	SIERRA GOLF TANGO descend to two thousand visual requirement to reach five thousand or lower by eight DME south of Cairns
15	SGT	APP	SIERRA GOLF TANGO
17	APP	FDS	FOXTROT DELTA SIERRA clear to land runway one five
20	FDS	APP	FOXTROT DELTA SIERRA
22	APP	ANQ	ALPHA NOVEMBER QUEBEC descend to seven thousand
29	APP	ANQ	ALPHA NOVEMBER QUEBEC descend to seven thousand
38	APP	ANQ	ALPHA NOVEMBER QUEBEC CAIRNS APPROACH

2. Relevant Map of Portion of Townsville WAC (World Aeronautical Chart)



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