Aviation Safety Investigation Report 199603408

Cessna Aircraft Company 182P

21 October 1996

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Occurrence Number: 199603408 **Occurrence Type:** Accident
Location: 21km E Tarcutta
State: NSW **Inv Category:** 4
Date: Monday 21 October 1996
Time: 0845 hours **Time Zone** EST
Highest Injury Level: None

Aircraft Manufacturer: Cessna Aircraft Company
Aircraft Model: 182P
Aircraft Registration: VH-LWM **Serial Number:** 18263291
Type of Operation: Non-commercial Pleasure/Travel
Damage to Aircraft: Substantial
Departure Point: Hoxton Park, NSW
Departure Time: 0644 EST
Destination: Porepunkah, VIC

Crew Details:

Role	Class of Licence	Hours on Type	Hours Total
Pilot-In-Command	Commercial	159.7	293

Approved for Release: Tuesday, December 24, 1996

The pilot had flown the aircraft from Porepunkah to Wangaratta where he added fuel. He then continued the flight as planned to Hoxton Park. On the evening before the return flight to Porepunkah the pilot travelled to Hoxton Park to check the aircraft. He used a dipstick to calculate the fuel remaining and estimated there was a total of 200 L, 90 L in the right fuel tank and 110 L in the left. He considered this was sufficient for the flight and declined the opportunity to add more fuel at that time.

The next morning the pilot completed a pre-flight inspection of the aircraft, including another check of the fuel quantity. He again estimated the fuel remaining to total 200 L. Approximately 90 minutes after departure, whilst the aircraft was cruising at 6,500 ft, the engine started to misfire, then experienced a complete loss of power. A forced landing was carried out following the pilot's unsuccessful attempt to restore power. The aircraft landed heavily and skidded along the ground for about 90 m, during which time the nose landing gear separated from the fuselage. The pilot and three passengers escaped without injury.

Weather conditions at 6,500 ft at the time of the accident were fine, with a temperature of 1 degree Celsius, and a dew point of minus 10 degrees Celsius.

An on-site examination of the aircraft indicated no evidence of an engine defect which may have contributed to the accident. No fuel was found in either fuel tank, and only a small quantity could be collected from the remaining fuel system. There was no evidence of fuel having vented or leaked from the fuel cells or the engine area, nor were there indications of excessive fuel consumption.

The recent flight history of the aircraft and relevant fuel purchases were examined. It was determined that there would most likely have been a total of about 100 lts remaining in the fuel cells when the pilot added a further 122 lts at Wangaratta. Using average fuel consumption figures for the aircraft type, and flight times obtained from the the pilot, it was estimated that there had been insufficient fuel on board to complete the flight to Porepunkah.

When the pilot had refuelled at Wangaratta he observed fuel bubbling up from each fuel inlet and assumed the fuel cells were full. He did not use a dipstick to confirm the quantity, nor did he look into the fuel inlets to observe the fuel levels after he removed the fuel nozzle from each inlet. There would have been about 222 L on board the aircraft when the pilot departed Wangaratta and not 303 L, as should have been the case if the fuel tanks had been filled to capacity. Subsequent observations of fuel quantity indications on the dipstick may have been influenced by this false assumption.