



AVIATION INVESTIGATION REPORT

A06Q0181



FLIGHT IN WEATHER CONDITIONS UNFAVOURABLE FOR VISUAL FLIGHT AND COLLISION WITH TERRAIN

**AVIATION MAURICIE/AVIATION BATISCAN
CESSNA U206F (FLOATPLANE) C-FASO
CARON LAKE, QUEBEC
19 OCTOBER 2006**

The Transportation Safety Board of Canada (TSB) investigated this occurrence for the purpose of advancing transportation safety. It is not the function of the Board to assign fault or determine civil or criminal liability.

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Summary

The floatplane, a Cessna U206F (registration C-FASO, serial number U20602081) operated by Aviation Mauricie/ Aviation Batiscan, was carrying out a local tourist flight in the area of Grand-Mère, Quebec. The pilot and the five passengers took off from the floatplane base at Tortue Lake, Quebec, at 1020 eastern daylight time in the direction of Piles Lake, Quebec. After flying over the Grand-Mère hydroelectric dam, the aircraft entered a valley leading to Piles Lake. The weather conditions worsened, and the floatplane entered a fog bank skirting the hills. The pilot lost all visual reference with the ground and tried to keep the aircraft's wings horizontal while applying full power to initiate a climb. The left float struck a tree, and the aircraft pitched downward and ended up on its back. The pilot and passengers evacuated the aircraft uninjured. The aircraft sustained major damage.

Ce rapport est également disponible en français.

Other Factual Information

The aircraft was airworthy and no defects were reported that might have contributed to the accident. The Cessna U206F is a single-engine, high-wing aircraft capable of transporting six persons. The aircraft was certified, equipped and maintained in accordance with existing regulations and approved procedures.

The pilot possessed the required licence and qualifications for the flight in accordance with existing regulations. He has held a commercial pilot licence - aeroplane since 12 July 2004. At the time of the occurrence, he had logged roughly 700 flying hours. Most of these hours were accumulated on floatplanes. The pilot was hired by Aviation Mauricie/ Aviation Batiscan in July 2006 and had received training on the Cessna 206 floatplane.

Aviation Mauricie/ Aviation Batiscan has held a valid air operator certificate issued by Transport Canada (TC) since 26 July 2001. It operates Cessna 206 and de Havilland DHC-2 Beaver aircraft under Part VII, Subparts 2 and 3 of the *Canadian Aviation Regulations* (CARs). When the floatplane left the base at Tortue Lake, Quebec, the flight was scheduled to last about 20 minutes. The flight was conducted pursuant to Subpart 3 because the aircraft was being used for sightseeing.

On the morning of the accident, two flights had been cancelled because of adverse weather conditions. At about 0930 eastern daylight time,¹ the conditions improved and the chief pilot authorized the flight. The ceiling was estimated at 1100 feet above ground level (AGL), and visibility was estimated at six miles. A specification on the operator certificate allowed for visual flight rules (VFR) flights during the day with visibility of at least one mile when the aircraft was flown at less than 1000 feet AGL in uncontrolled airspace.

The tourists reported to the dock and waited for their flight, which had already been included on the day's agenda. Departure took place at 1020. The pilot established the aircraft at roughly 700 feet AGL, that is, roughly 1100 feet above sea level (ASL). Visibility was about six miles. However, the weather conditions deteriorated as the flight continued. When the aircraft entered the valley leading to Piles Lake, located about eight miles northwest of Tortue Lake, the pilot communicated by radio with the chief pilot, who was following in another aircraft, and warned him of the presence of fog. He alerted the chief pilot that he was going to do a 180° turn. The aircraft suddenly flew into a thick layer of fog, and the pilot lost visual reference with the ground required for VFR flight. He noticed the trees below the aircraft and applied full power to initiate a climb. At that moment, the left float clipped the top of a tree and the aircraft pitched downward. The aircraft nosed over and flipped onto its back.

The pilot and the passenger in the forward right seat were wearing their seat-belts, including a shoulder safety belt, and the other passengers were wearing their safety belts. They sustained only slight injuries and were able to quickly evacuate the aircraft. The aircraft sustained serious damage, but did not catch fire. Using his cellular telephone, the pilot called the company, which

¹ All times are eastern daylight time (Coordinated Universal Time minus four hours).

in turn called 911. The pilot also switched on the emergency locator transmitter (ELT). Help arrived at the site at 1230, that is, about two hours following the accident. The aircraft had crashed in the mountains near Caron Lake. The mountains in this area rise to 1100 feet ASL.

No METAR² observations and airport forecasts are issued for Lac-à-la-Tortue. Pilots operating locally in this region must plan their flights based on graphic area forecasts (GFAs), clouds and weather. The valid GFA for 19 October at 0800 for the Grand-Mère area showed an overcast ceiling at 1500 feet and visibility exceeding six miles. Locally, visibility might be reduced to ½ mile in light mist and fog, with a ceiling at 300 feet AGL.

The only METAR and airport forecasts available for the areas in closest proximity to Lac-à-la-Tortue are those issued for Montréal/Mirabel International Airport and Québec Airport, Quebec, both of which are located more than 60 nautical miles away. At 0011, that is, a few minutes after the accident, the conditions at Mirabel were favourable for visual flight, while Québec reported instrument flight rules (IFR) conditions with an overcast sky at 200 feet and visibility of ⅛ mile in fog.

On 08 July 2006, another Cessna C206 operated by the company had been involved in a fatal accident. That accident was the subject of an investigation by the TSB (A06Q0114). In the wake of the accident, TC conducted a regulatory audit of the company. In the course of the audit, conducted between 07 August and 11 August 2006, TC observed, among other things, that the operations manager was not fulfilling his responsibilities, particularly in respect of training programs, flight safety, and compliance with regulations and company policy. The company submitted a corrective action plan to TC on 10 October 2006. The plan was accepted, and TC scheduled a re-inspection of the base of operations on 16 December 2006.

The day following the accident covered by this report, that is, 20 October 2006, TC issued the company a notice of suspension of its air operator certificate. The operator certificate limiting the operation to the Cessna 206 was returned to the company on 03 January 2007. On 10 April 2007, in response to reassurances that the operator was complying with the specified requirements, TC again returned the company's operator certificate, including authorization to fly the DHC-2 Beaver.

Analysis

Since two of the earlier flights had been cancelled because of the weather, it is likely that the pilot was under no pressure from the chief pilot to go ahead with the flight. In consideration of the weather conditions just before departure and the specification on the operator certificate that allowed flying with visibility of at least one mile, the decision to go ahead with the flight can be justified. Yet, although the weather conditions were favourable for visual flight at the time of departure from Tortue Lake, they quickly deteriorated during the approach to Piles

² METAR (Aviation Routine Weather Report) observations are generally prepared and sent out on an hourly basis. They describe weather conditions at a given time and location, according to ground-based observations.

Lake. This loss of visibility was consistent with the GFA, which had warned that conditions might deteriorate to the point where visibility was reduced to ½ mile with a ceiling at 300 feet AGL.

Flying at low altitude in low-visibility conditions is dangerous. Low-altitude flying gives pilots little time to see obstacles and take evasive action. The pilot's decision to turn back was late in coming. The consequence of his failure to act was the loss of visual ground references, and the pilot was unable to avoid striking the mountain right in front of him. Although the pilot did possess the necessary licence and qualifications, it is possible that his lack of experience contributed to his late decision.

Findings as to Causes and Contributing Factors

1. The pilot delayed turning back when he encountered adverse weather conditions, which resulted in a loss of visual ground references.
2. On losing his visual ground references, the pilot was unable to avoid striking the mountain right in front of him. The aircraft hit some trees before nosing over and ending up on its back.

This report concludes the Transportation Safety Board's investigation into this occurrence. Consequently, the Board authorized the release of this report on 18 October 2007.

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