

**Aviation Safety Investigation Report
199603735**

**de Havilland Canada
Beaver**

15 November 1996

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NOTE: All air safety occurrences reported to the ATSB are categorised and recorded. For a detailed explanation on Category definitions please refer to the ATSB website at www.atsb.gov.au.

Occurrence Number: 199603735 **Occurrence Type:** Accident
Location: 7km W Point Lookout
State: NSW **Inv Category:** 4
Date: Friday 15 November 1996
Time: 1300 hours **Time Zone** ESuT
Highest Injury Level: Fatal
Injuries:

	Fatal	Serious	Minor	None	Total
Crew	1	0	0	0	1
Ground	0	0	0	0	0
Passenger	0	0	0	0	0
Total	1	0	0	0	1

Aircraft Manufacturer: de Havilland Canada
Aircraft Model: DHC-2
Aircraft Registration: VH-IDI **Serial Number:** 1535
Type of Operation: Commercial Aerial Agriculture - Other
Damage to Aircraft: Destroyed
Departure Point: Kotupna NSW
Departure Time: 1255 ESuT
Destination: Kotupna NSW

Crew Details:

		Hours on	
Role	Class of Licence	Type	Hours Total
Pilot-In-Command	Commercial	200.0	1400

Approved for Release: Friday, November 28, 1997

FACTUAL INFORMATION

On the morning of the accident, the pilot and the loader-driver left Armidale in the aircraft between 0715 and 0730 and flew to the property "KOTUPNA". The task required the aircraft to operate from an agricultural strip 4,400 ft above mean sea level. Superphosphate spreading operations commenced between 0745 and 0800 and continued for approximately 1.5 hours after which the pilot and driver refuelled the aircraft and had a break. The pilot remarked to the driver that the aircraft was going very well and requested him to load a tonne of superphosphate. Operations resumed for about 1.5 hours and then ceased again whilst the aircraft was refuelled. After refuelling, the driver and the pilot had lunch and a break for about half an hour. The pilot again advised the loader driver that he would take a tonne, as the aircraft was performing well.

After warming up the engine, the pilot made a normal take-off in a northeasterly direction and banked to the left to head southwest to the treatment area. The driver observed that the aircraft was lower and closer into the strip than had been the normal route to the treatment area. The aircraft did not seem to be climbing sufficiently to pass over the hill in front of it. The aircraft was then seen to be in a climbing left turn, toward the driver with superphosphate dumping from it. The aircraft's left wingtip contacted the ground after which the aircraft cartwheeled and came to rest 200-300 meters from the superphosphate dump. The driver ran down to the aircraft and found the pilot still strapped in the seat with no apparent sign of life. He moved the pilot clear of the aircraft in case of fire and then summoned help.

The investigation determined that the pilot had initiated dumping 124 metres before the wing tip struck the ground, with a quantity still remaining in the hopper after the wreckage came to rest

Examination of the aircraft and its systems did not find any pre-existing defects or malfunctions that would have precluded other than normal operation. Impact marks on the propeller indicated that it was transmitting substantial power at impact and the flap system was found in the retracted position. Inspection of the aircraft records showed that the aircraft had completed periodic maintenance two days prior to the accident.

Samples of the automotive fuel being used by the aircraft were subjected to laboratory testing and found to conform to the fuel the aircraft was approved to use.

The Bureau of Meteorology estimated that conditions at the time of the accident were, hot with gusty winds predominantly from a west to northwesterly direction. On the surface, the winds were 290 degrees magnetic, 15 gusting 25 knots with the possibility of mechanical turbulence around the hills. The visibility was greater than 30 km, the temperature 28 degrees C and the barometric pressure was 1009 hPa. Additionally, the surface observations and satellite imagery at the time indicate the strong possibility of microbursts in the area.

The pilot had advised the driver that he initially thought that he would not be working that day as he had suffered from a migraine headache the previous night.

ANALYSIS

The aircraft was climbing toward rising ground, and probably experienced windshear and turbulence as it encountered a quartering tailwind approaching the crest of the hill. The aircraft had a full load of fuel, a tonne of superphosphate and was operating at density altitude of 7,090 ft. The result would be a reduction in climb performance and it is likely that the pilot attempted to turn the aircraft away from the rising terrain. During the turn, the left wing tip contacted the ground and the aircraft cartwheeled. It is likely that during the turn whilst dumping the superphosphate, the aircraft stalled and the pilot was unable to regain control before the aircraft struck the ground.

The investigation was unable to determine the why the pilot was unable to dump the full load of superphosphate, or why climb flap was not selected.

SIGNIFICANT FACTORS

The following factors were determined to have contributed to the accident.

1. Wind conditions, which were conducive to windshear and turbulence, were present in the area.
 2. The aircraft was climbing at near maximum weight.
 3. The aircraft was climbing into rising ground.
 4. The aircraft was operating at a high-density altitude, which would have placed it near its performance limit.
 4. Control of the aircraft was lost with insufficient height to effect recovery.
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