Papua New Guinea

DEPARTMENT OF TRANSPORT

ACCIDENT INVESTIGATION COMMISSION

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AIRCRAFT ACCIDENT INVESTIGATION INTERIM REPORT

COLLISION WITH TERRAIN, P2-MCB, DE HAVILLAND DHC 6-300, 6NM SSE KOKODA, 11 AUGUST 2009.

FACTUAL INFORMATION

The information contained in this preliminary report is derived from initial investigation of the occurrence. Readers are cautioned that there is the possibility that new evidence may become available that alters the circumstances as depicted in the report.

1.1 HISTORY OF THE FLIGHT

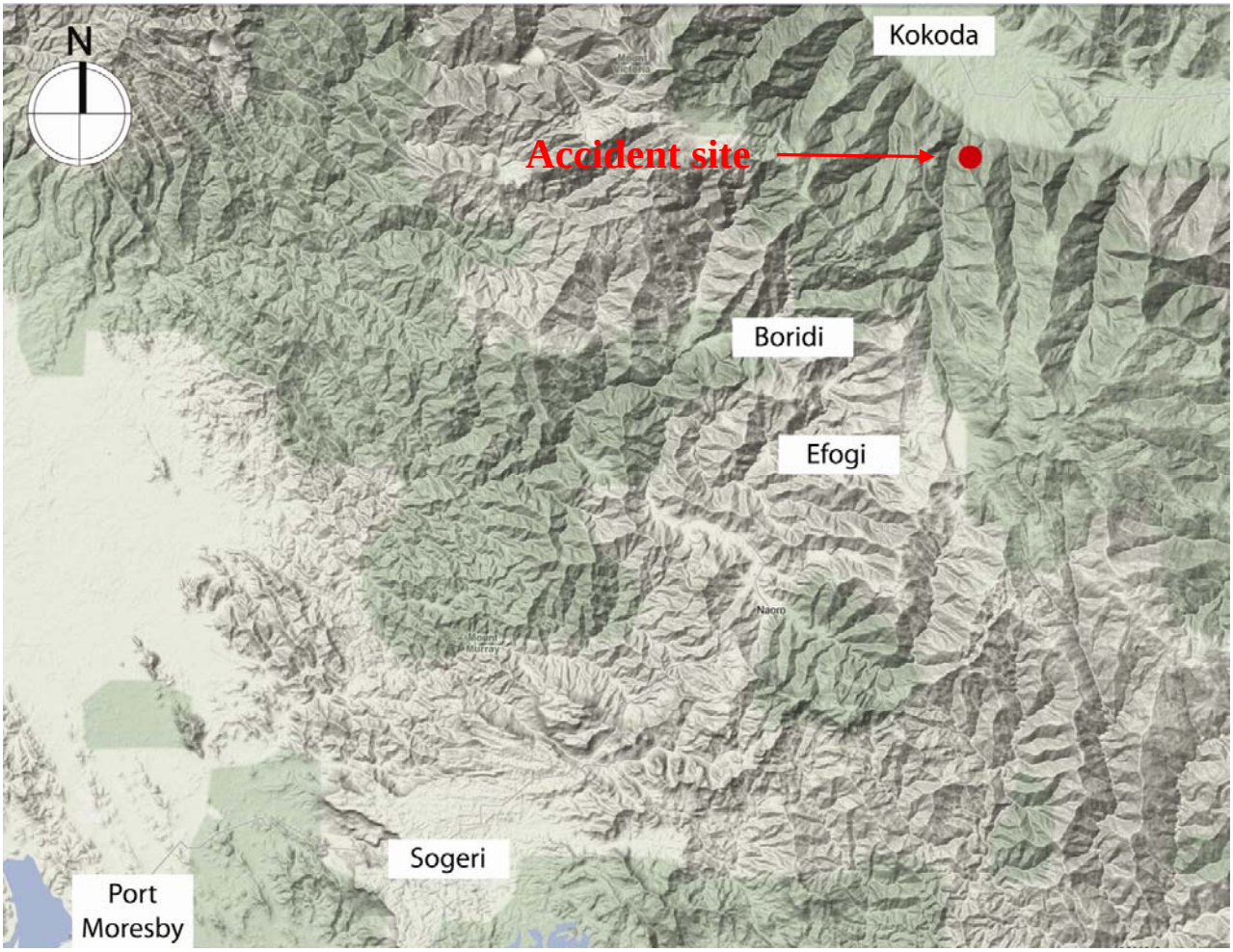
The aircraft, a De Havilland Twin Otter (DHC 6), registered P2-MCB, was on a charter flight from Port Moresby (Jacksons Aerodrome) to Kokoda (Figure 1), Papua New Guinea carrying 11 passengers and a compliment of two crew. The passenger manifest indicated there were a tour group of nine foreign nationals (Australian) who were being positioned at Kokoda to walk the Kokoda Track, a Papua New Guinean mine worker returning home on a rest break, and another foreign national businessman from the local area.

The Area Weather Forecast (ARFOR) for the intended flight issued by the National Weather Service (NWS) Forecasting & Warning Centre in Port Moresby had a forecast period valid from 0900 to 2100 UTC.

The ARFOR indicated forecasts of isolated showers and thunderstorms with areas of rain. Significant cloud layers at estimated base levels of 800ft with tops of 18,000ft above Mean Sea Level (MSL). Isolated Cumulo Nimbus (CB) or thunderstorm clouds was also forecasted reaching to tops of 45000 ft. Freezing levels (FZL) was estimated at 15,500 ft above MSL with moderate to severe turbulence within the vicinity of the CB and cumuliform (CUF) clouds.

Kokoda is an isolated location and the airstrip does not have on-site weather observations facilities to record and report actual weather to substantiate weather forecasts generated for the strip. Forecasts are generated from chart analysis and infrared (IR) satellite imagery.

Figure 1: Aircraft accident location



On the morning of the accident, there were a number of aircraft operating between Jacksons Aerodrome and in and around the Kokoda area prior to the pilot's report of P2 – MCB taxiing for Kokoda. The Flight Service operators on duty later reported that their sector (area of responsibility for traffic information) was busy with aircraft either diverting back to Jacksons or holding due to weather.

The crew of the accident aircraft lodged their standard flight plan with the Civil Aviation Authority (CAA) briefing office, nominating an estimated departure time of 1010 for a return flight to Kokoda with a fuel load of 1,200 lbs. The aircraft subsequently reported taxiing at Jacksons at 1049 bound for Kokoda. The crew reported departure at 1055 climbing to 9,000 ft (A090), and estimating Kokoda at 1120.

At 1108.33, the flight crew reported to Flight Service on VHF frequency 120.9 MHz that they were cruising at 9,000 ft. The crew was advised that the area QNH

(altimeter subscale setting for indicated altitude) was 1,011 hPa. The allocated high frequency radio (HF) frequencies for their Kokoda arrival report were 5565 (primary), or 6622 (secondary). The flight service area VHF frequency at the time was congested with some transmissions being over transmitted by a number of other aircraft in the same area, which resulted in a series of exchanges between the flight crews of those aircraft, and of the accident aircraft. The other aircraft were reporting their arrival at Efogi and departure from Kokoda respectively. At 1110, the flight crew of P2 – MCB reported leaving 9,000 ft on descent to Kokoda via the Kokoda Gap, which is approximately 12 NM (22 km) south-east of the Kokoda airstrip.

At 1114, Flight Service called P2 – MCB a number of times to provide a traffic advisory on another aircraft, but there was no response. From 1124 until 1130, a number of attempts were made to contact the P2 – MCB but there was still no response. A phone call received by Flight Service from the company subsequently advised that the aircraft had not arrived on the ground at Kokoda. Other aircraft in the area attempted calling P2 – MCB until another company aircraft advised Flight Service at 1135 confirming that P2 – MCB had not arrived.

The Rescue Coordination Centre (RCC) was activated and at 1136 an ALERFA (Search and Rescue Alert Phase) was declared. There were no reports of any emergency locator transmitter (ELT) signals being received in the area, which resulted in a DISTRESFA Search and Rescue phase being declared at 1225.

On Wednesday 12 August 2009, there were a number of search aircraft operating in the area, one of which detected an ELT signal at approximately 0810. The wreckage was visually located shortly afterwards on the eastern side of the Kokoda Gap and approximately 6 NM (11 km) south-east of the Kokoda airstrip There were a number of witnesses in the area who reported hearing the sound of an impact but who were unable to sight the aircraft due the overcast cloud conditions.

It was subsequently determined that the aircraft had impacted steep, heavily-timbered terrain in a near level attitude. The wreckage trail was spread through the terrain over approximately 100 metres in an Easterly direction with the aircraft’s cockpit/cabin area totally destroyed.

The accident was not survivable.

1.2 INJURIES TO PERSONS

	Fatal	Serious	Minor	None	Unknown	Total
Pilot	**1**					**1**
Co-pilot	**1**					**1**
Cabin Crew						
Other Flight Crew						
Crew Total	**2**					**2**
Passengers	**11**					**11**
Other on Aircraft						
Unknown						
Total	**13**					**13**

1.3 DAMAGE TO AIRCRAFT

The aircraft was destroyed by impact forces.

1.4 OTHER DAMAGE

There was no damage to infrastructure, however, the surrounding forest areas were damaged during the impact sequence and by the subsequent on-ground rescue and investigation activities.

Some concern has been raised about possible pollution of the local villagers' water supply due to the accident site being within the catchment area of their local fresh water dam.

1.5 PERSONNEL INFORMATION

Pilot in command

The pilot in command (PIC) held a Commercial Pilot (Aeroplane) Licence and a multi-engine command instrument rating, and was appropriately endorsed for the aircraft type. The PIC had a total aeronautical experience of about 2,270 hrs, with 1,970 hrs on Twin Otter aircraft, and held a current class one CAA Medical Certificate.

Copilot

The copilot held a Commercial Pilot (Aeroplane) Licence and was appropriately endorsed for the aircraft type. The copilot had a total aeronautical experience of about 2,150 hrs, with about 1,940 hrs on the Twin Otter aircraft, and held a current class one CAA Medical Certificate.

1.6 AIRCRAFT INFORMATION

AIRCRAFT TYPE De Havilland DHC 6 – 300

REGISTRATION P2 – MCB

YEAR OF MANUFACTURE 1974

TOTAL AIRFRAME HOURS Approximately 46,700

The aircraft included the installation of global positioning system (GPS) equipment and a number of other radio and avionics systems.

1.7 METEOROLOGICAL INFORMATION

According to the NWS and reports from crews of other aircraft, there were extensive areas of very low and middle-level layered cloud in the area, embedded with thunderstorms and associated severe turbulence. The forecast indicated widespread areas of rain, which had consistently interrupted normal operations in the area throughout the morning of the accident.

1.8 AIDS TO NAVIGATION

Not applicable to a VFR (visual flight rules) flight.

1.9 COMMUNICATIONS

Communications with the aircraft during taxiing, departure and enroute to the Kokoda Gap were normal. During these exchanges, the crew was given primary and secondary HF frequencies for their Kokoda arrival report but no transmissions were reportedly heard by Flight Service.

Radio frequencies during the morning operations were congested with frequent over transmissions reported. Flight Services reported that there was HF transmitter difficulties evident, thus making radio contact more difficult.

1.10 AERODROME INFORMATION

The Kokoda airstrip is one of many landing areas situated in the Oro province of Papua New Guinea, commonly referred to locally as the 'jungles'. It is located at 08.53° S 147.44° E of latitude and longitude at an elevation of 1,269 ft (387 m) AMSL.

The 855 m X 45 m landing strip is aligned 17/35° M and, due to its surroundings, has a 2.2% downhill northern gradient, which restricts landings to strip 17 and takeoff to strip 35. The maintenance and administration of the grassed black soil strip surface was the responsibility of the local Oro Provincial Government.

There were no recognized facilities available that are normally associated with regular aircraft operations.

1.11 FLIGHT RECORDERS

The Aircraft was not equipped with any flight recorder equipment, nor was it required to be so by aviation regulation.

1.12 WRECKAGE AND IMPACT INFORMATION

The aircraft wreckage was found at about 5,774 ft (1,760 m) AMSL, on a heading of about 110° M. The wreckage trail extended for about 100 meters on a slope of about 45° to the horizon in heavily-timbered terrain. The aircraft impacted the terrain in an upright attitude. The aircraft structure was significantly disrupted from impact forces (Figure 2). All primary and secondary flight controls were accounted for at the accident site.

Both wings had separated from the fuselage and both engines had separated from their respective wings. A number of items were recovered from the accident site for further examination, including: the propellers, engines, various aircraft instruments and a number of electronic and radio components.

Figure 2: Aircraft main fuselage and empennage section

1.13 MEDICAL AND PATHOLOGICAL INFORMATION

Medical and pathological information was not available at the time of writing this report.

1.14 FIRE

There was no fire.

1.15 SURVIVAL ASPECTS

The accident was not survivable.

1.16 TESTS AND RESEARCH

The aircraft's engines, propellers and a number of other ancillary items and components have been recovered for further examination.

1.18 FURTHER INVESTIGATION

The investigation is continuing and will include:

- examination of the items that were recovered from the accident site
- review of the relevant operational documentation
- review of the aircraft's weight and balance
- review of the forecast and actual weather conditions at the time of the occurrence
- conduct of a number of interviews with relevant persons and organisations
- review of the relevant risk controls and potential organisational influences that may have contributed to the development of the occurrence.

S.V. O'Toole
SNR INVESTIGATOR 14.9.2009

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