



LIMITED ACCIDENT INVESTIGATION REPORT
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Reference Number		CA18/2/3/10096					
Classification	Accident	Date	1 January 2022	Time	1550Z		
Type of Operation	Private (Part 94)						
Location							
Place of Departure	Lunsklip Fisheries Private Airstrip, Mpumalanga Province		Place of Intended Landing	Potloodspruit Private Airstrip, Mpumalanga Province			
Place of Accident	Lunsklip Fisheries Private Airstrip, Runway 11						
GPS Co-ordinates	Longitude	S 24°02'09.72"	Latitude	E 029°10'26.23"	Elevation	4603 feet	
Aircraft Information							
Registration	ZU-ERK						
Model/Make	Bushbaby Explorer (Serial Number:117-09-06)						
Damage to Aircraft	Destroyed		Total Aircraft Hours	591			
Pilot-in-command							
Licence Type	Private Pilot Licence (Aeroplane)		Gender	Male	Age	45	
Licence Valid	Yes						
Total Hours on Type	450		Total Flying Hours	1572			
People On-board	1 + 1	Injuries	2	Fatalities	0	Other (on ground)	0
What Happened							
<p>On Saturday, 1 January 2022 at 1530Z, a pilot and a passenger on-board a Bushbaby Explorer with registration ZU-ERK took off from Lunsklip farm routing to Potloodspruit private airstrip in Mpumalanga province. This was a private flight conducted under visual flight rules (VFR) in day light and under the provisions of Part 94 of the Civil Aviation Regulations (CAR) 2011 as amended.</p> <p>The pilot reported that after conducting a pre-flight check, he taxied the aircraft for line up on Runway 11 (RWY11). During the take-off run, all the instrument indications read normal. After the aircraft rotated, the climb rate was not positive. The pilot then lowered the aircraft's nose to increase the airspeed and, thereafter, climbed at a steep rate to clear high ground and power lines at the end of the runway. However, the aircraft's airspeed kept decreasing and the wings started to lose lift. With little runway remaining, the pilot elected to turn right towards lower ground but experienced a 'down draft' from the left-side of the runway. The pilot then executed a forced landing on the right-side of RWY 11, which was covered with shrubs (bushes) approximately 2 metres in height. The aircraft sustained substantial damage to the landing gear, fuselage, wings and propeller. The pilot and the passenger were injured during the accident sequence and they were taken to hospital.</p>							



Figure 1: Aerial view of Lunsclip farm and the path followed by the ZU-ERK aircraft. (Source: Google Earth)



Figure 2: The aircraft as it came to rest on a bushy terrain. (Source: EMS)

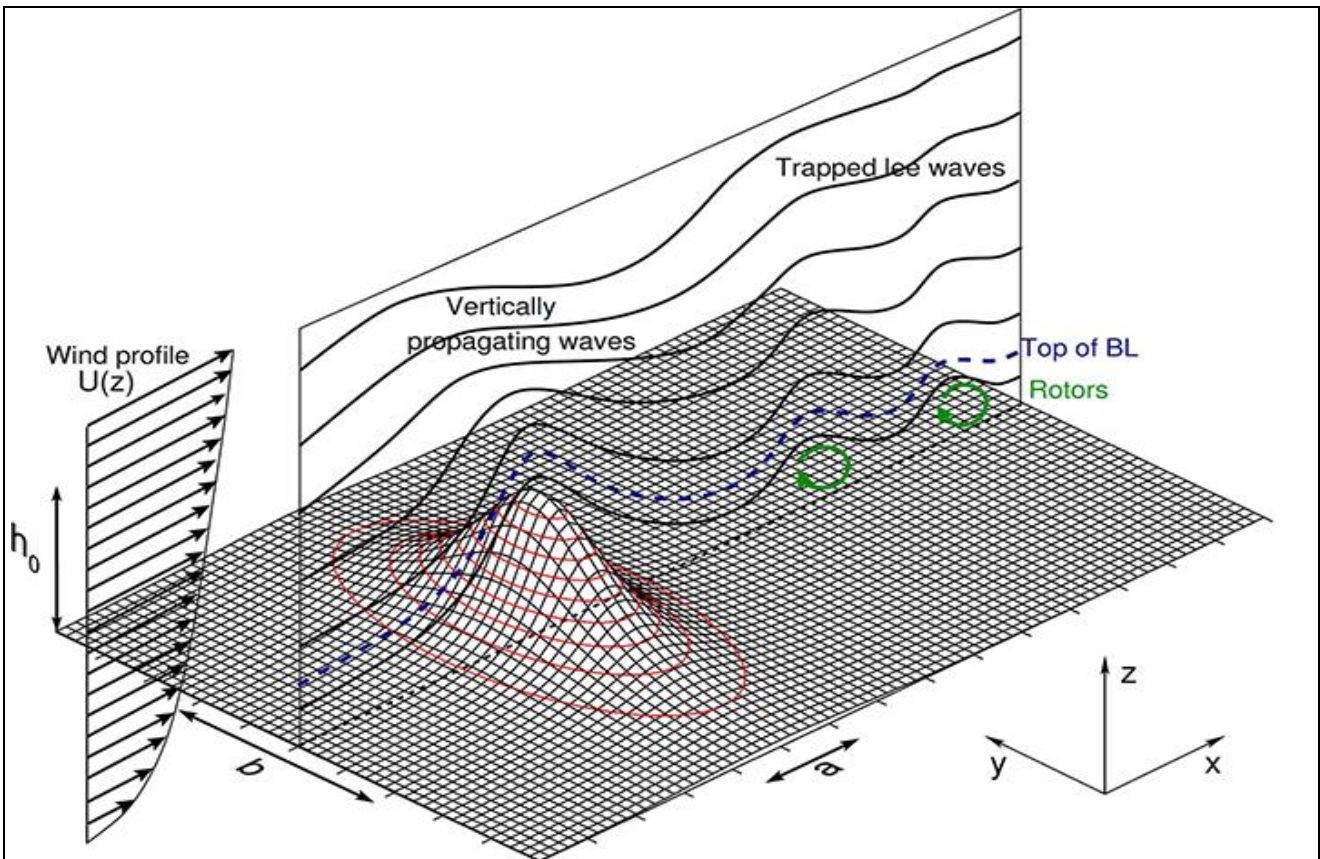


Diagram 1: A schematic diagram of a mountain wave. (Source: ResearchGate)

What was found:

1. The pilot was initially issued a Private Pilot Licence (PPL) on 7 March 2017; he had undergone a competency evaluation on 18 February 2021 and was reissued the licence on the same day with an expiry date of 28 February 2022. The pilot had a Class II medical certificate issued on 25 July 2018 with an expiry date of 30 July 2023, with no restrictions.
2. The aircraft was issued a Certificate of Registration on 25 July 2016 and the Authority to Fly on 12 March 2019 with an expiry date of 31 March 2022. The aircraft was issued a Certificate of Release to Service on 18 February 2021 at 527.8 hours. The aircraft was maintained by an approved person (AP). The AP was issued an AP certificate on 28 October 2020 with an expiry date of 31 October 2021. The last mandatory periodic inspection (MPI) on the aircraft was carried out on 18 February 2021 at 527.8 airframe hours. The accident occurred 63 hours after the last MPI. There were no reported anomalies with the aircraft prior to the flight.
3. The pilot reported that he experienced a down draft after take-off from RWY 11 and elected to execute a forced landing on the right-side of the runway. The aircraft crash-landed on a bushy terrain and was destroyed on impact. The pilot and the passenger were injured during the landing sequence.
4. The runway designation is 11/29 which is 700 metres long and 12 metres wide. The aircraft's weight and balance calculation was 13.84" of the centre of gravity, and was within limit for the flight. The runway is situated adjacent the mountainous terrain (Figure 1). It is likely that the aircraft experienced a down draft on the lee side of the mountain which prevented a positive climb rate and caused airspeed decay (Figure 3).

Probable cause:

The aircraft experienced a down draft on the lee side of the mountain during take-off, preventing the aircraft from attaining a positive rate of climb. The pilot attempted an unsuccessful emergency landing on a bushy terrain.

Safety Action/s

None.

Safety Message

Pilots are encouraged to take precautions when operating aircraft at airfields situated in proximity to mountainous terrain as flights may be affected by mountain waves/down draft.

Purpose of the Investigation

*In terms of Regulation 12.03.1 of the Civil Aviation Regulations (CAR) 2011, this report was compiled in the interest of the promotion of aviation safety and the reduction of the risk of aviation accidents or incidents and **not to apportion blame or liability.***

About this Report

Decisions regarding whether to investigate, and the scope of an investigation are based on many factors, including the level of safety benefit likely to be obtained from an investigation. For this occurrence, no investigation has been conducted, and the Accident and Incident Investigations Division (AIID) has relied on the information submitted by the affected person/s and organisation/s to compile this brief report. The report has been compiled using information supplied in the initial notification, as well as follow-up information to bring awareness of potential safety issues to the industry in respect of this occurrence, as well as possible safety action/s that the industry might want to consider in preventing a recurrence of a similar accident.

This report provides an opportunity to share safety message/s in the absence of an investigation.

All times given in this report are Co-ordinated Universal Time (UTC) and will be denoted by (Z). South African Standard Time is UTC plus 2 hours.

Disclaimer

This report is produced without prejudice to the rights of the AIID, which are reserved.

This report is issued by:

**Accident and Incident Investigations Division
South African Civil Aviation Authority
Republic of South Africa**