



AIRCRAFT ACCIDENT REPORT AND EXECUTIVE SUMMARY

				Reference:		CA18/2/3/10588	
Aircraft Registration	ZS-CZU	Date of Accident	8 June 2025		Time of Accident	1630Z	
Type of Aircraft	Piper PA-28-180		Type of Operation		Private (Part 91)		
Pilot-in-command Licence Type	Private Pilot Licence		Age	22	Licence Valid	Yes	
Pilot-in-command Flying Experience	Total Flying Hours		139.8		Hours on Type	118.5	
Last Point of Departure	Virginia Aerodrome (FAVG), KwaZulu-Natal Province						
Next Point of Intended Landing	Ladysmith Aerodrome (FALY), KwaZulu-Natal Province						
Damage to Aircraft	Substantial						
Location of the accident site with reference to easily defined geographical points (GPS readings if possible)							
Bloemhof Farm near Greytown (GPS position: 29°06'13.60" South 030°32'13.22" East)							
Meteorological Information	Instrument meteorological conditions prevailed with no reference to the ground						
Number of People On-board	2 + 0	Number of People Injured	1	Number of People Killed	0	Other (On Ground)	0
Synopsis							
<p>A Piper PA-28-180 aircraft with registration ZS-CZU was one of three aircraft that took off on a private flight from Virginia Aerodrome (FAVG) in KwaZulu-Natal province on the afternoon of 8 June 2025. The pilots on-board the aircraft flew in a loose formation; they had planned to route along the coast to Richards Bay Aerodrome (FARB) from where they would turn inland to Ladysmith Aerodrome (FALY) to land and refuel, before continuing to Wonderboom Aerodrome (FAWB) in Gauteng province for a full stop landing. Only one of the three aircraft (ZS-EIL) landed at FALY. The ZS-CZU and the other aircraft (ZS-KFB) flew three approaches each for Runway 29 at FALY but could not land. <i>FALY does not have runway lights</i>. Thereafter, the two aircraft (ZS-CZU and ZS-KFB) diverted to Greytown Aerodrome (FAGY). One of the requirements to land at FAGY at night is that pilots must be instrument flight (IF) rated. However, none of the pilots in the two aircraft were IF rated.</p> <p>The pilot flying (PF) in the ZS-CZU aircraft stated that they entered instrument meteorological conditions (IMC) as they encountered a thick mist in the area. He further stated that they had no visual of the ground or runway lights at FALY. The ZS-CZU pilot-in-command (PIC) had a map and an iPad with a navigational application in her possession, which she referenced. She was able to verify that the terrain below them at the time consisted mostly of agricultural land. The PF opted to perform a “<i>controlled crash landing</i>” by entering a controlled spiral descent. The aircraft came to rest in an upright position on a sugarcane field. The PF was not injured; the PIC sustained minor injuries to her face. The aircraft was substantially damaged.</p>							
Probable Cause							
The crew failed to land at FALY before the official sunset; after performing three missed approaches they opted to divert to FAGY, which was their second alternate aerodrome on their flight plan. Neither of the crew members was IF rated, which was a requirement to land at FAGY at night. They entered IMC and the PF made a conscious decision to perform a stable descent (<i>controlled crash</i>) until they impacted the terrain (sugarcane field).							
SRP date	14 October 2025		Publication date	15 October 2025			

Occurrence Details

Reference Number : CA18/2/3/10588
Occurrence Category : Category 2 (Accident)
Type of Operation : Private (Part 91)
Aircraft Registration : ZS-CZU
Aircraft Make and Model : Piper PA-28-180
Nationality : South African
Place : Bloemhof Farm near Greytown, KwaZulu-Natal province
Date and Time : 8 June 2025 at 1630Z
Injuries : Minor injury (one occupant)
Damage : Substantial

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.

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.

Investigation Process

The Accident and Incident Investigations Division (AIID) of the South African Civil Aviation Authority (SACAA) was notified of the occurrence on 8 June 2025 at 0850Z. The occurrence was classified as an accident according to the CAR 2011 Part 12 and the International Civil Aviation Organisation (ICAO) STD Annex 13 definitions. An investigator was dispatched to the accident site.

Notes:

- Whenever the following words are mentioned in this report, they shall mean the following:
Accident — this investigated accident
Aircraft — the Piper PA-28-180 involved in this accident
Investigation — the investigation into the circumstances of this accident
Pilot — the pilot involved in this accident
Report — this accident report*
- Photos and figures used in this report were taken from different sources and may have been adjusted from the original for the sole purpose of improving clarity of the report. Modifications to images used in this report were limited to cropping, magnification, file compression, or enhancement of colour, brightness, contrast, or addition of text boxes, arrows, or lines.*

Disclaimer

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

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Abbreviation	Description
°	Degrees
°C	Degrees Celsius
AIID	Accident and Incident Investigations Division
AMO	Aircraft Maintenance Organisation
ARCC	Aeronautical Rescue Co-ordination Centre
ATC	Air Traffic Control
CAR	Civil Aviation Regulations
C of A	Certificate of Airworthiness
C of R	Certificate of Registration
CPL	Commercial Pilot Licence
CRS	Certificate of Release to Service
DME	Distant Measuring Equipment
DVOR	Doppler VHF Omnidirectional Range
FAGY	Greytown Aerodrome
FALY	Ladysmith Aerodrome
FAPM	Pietermaritzburg Aerodrome
FARB	Richards Bay Aerodrome
FAUL	Ulundi Aerodrome
FAVG	Virginia Aerodrome
FAWB	Wonderboom Aerodrome
FSTD	Flight Simulation Training Device
ft	Feet
GPS	Global Positioning System
hPa	Hectopascal
IF	Instrument Flying
IMC	Instrument Meteorological Conditions
kt	Knots
m	Metres
METAR	Meteorological Aerodrome Report
MHz	Megahertz
MSG	MeteoSat Second Generation
MTOW	Maximum Take-off Weight
PAPI	Precision Approach Path Indicator
PF	Pilot Flying
PIC	Pilot-in-command
PPL	Private Pilot Licence
QNH	Barometric Pressure Above Mean Sea Level
RNP	Required Navigation Performance
SACAA	South African Civil Aviation Authority
SAWS	South African Weather Service
SigWx	Significant Weather
TBO	Time Between Overhaul
UTC	Universal Co-ordinated Time
VFR	Visual Flight Rules
VHF	Very High Frequency
VMC	Visual Meteorological Conditions
VOR	VHF Omni-directional Range
Z	Zulu (Term for Universal Co-ordinated Time - Zero Hours Greenwich)

FACTUAL INFORMATION

1.1 History of Flight

- 1.1.1 On Saturday, 7 June 2025, three aircraft took off on a private (hire-and-fly) flight from Wonderboom Aerodrome (FAWB) in Gauteng province to Ladysmith Aerodrome (FALY) in KwaZulu-Natal where they intended to land and uplift fuel. On-board each aircraft were two pilots. After landing at FALY, the three aircraft were refuelled to capacity with 72.9 litres (L) uplifted to ZS-EIL, 70L to ZS-CZU and 77.9L to ZS-KFB. Thereafter, the aircraft took off for Richards Bay Aerodrome (FARB) but did not land there; instead, they proceeded in a southerly direction along the coast for a full stop landing at Virginia Aerodrome (FAVG). FARB and FAVG are also located in KwaZulu-Natal province. The flights were conducted under the provisions of Part 91 of the Civil Aviation Regulations of 2011 as amended.
- 1.1.2 On Sunday morning, 8 June 2025, the pilots went on an excursion to uShaka Marine World in Durban. Upon their return to FAVG between 1245Z and 1300Z, they refuelled their aircraft to capacity – ZS-EIL (64L), ZS-CZU (61L) and ZS-KFB (70L). A visual flight rules (VFR) flight plan was filed for the formation, which indicated their destination aerodrome as FALY; their first alternate aerodrome was Ulundi Aerodrome (FAUL), and the second was Greytown Aerodrome (FAGY). The flight time was entered as 2 hours and 30 minutes with a fuel endurance of 5 hours. At 1328Z, the first of the three aircraft took off from Runway 23 at FAVG, followed by the other two aircraft; they flew in a loose formation. *Their routing was the reverse of the inbound flight.* The ZS-KFB had a passenger on-board in addition to the crew (two pilots). The three aircraft flew from FAVG to FARB and then turned inland towards FALY. It was late afternoon by the time they arrived overhead FALY. The official sunset time for Ladysmith on the day was 1511Z. According to a local pilot, he arrived at the aerodrome at 1400Z and awaited the three aircraft to land so as to refuel them. He left FALY at 1540Z to drop-off his assistant at home; by that time, none of the three aircraft was overhead FALY. He also made a transmission to the three aircraft on frequency 124.80-Megahertz (MHz) using his radio but received no reply. The pilot flying ZS-CZU stated that once they were overhead FALY, they made three attempts to land on Runway 29 but were unable to do so; only the crew of ZS-EIL which had a flight instructor on-board, landed safely. *FALY is not equipped with runway lights.*
- 1.1.3 The flight instructor who was on-board ZS-EIL advised both crew (ZS-CZU and ZS-KFB) to divert to Pietermaritzburg Aerodrome (FAPM) which was 72 nautical miles (nm) from FALY. FAPM is a licensed aerodrome; it had an air traffic control officer on duty at the time. The aerodrome also had navigational equipment, as well as runway lights and precision approach path indicator (PAPI) lights on both runways. According to the ZS-CZU pilot flying (PF), they opted to divert to FAGY, which was the second alternative aerodrome as per the flight plan. *FAGY is 55nm from FALY.* He stated that they climbed to flight level (FL) 075 and routed to Greytown, which was closer to FALY, as they had a fuel endurance of approximately 1 hour

and 20 minutes, which might not have been enough for a flight to FAPM. The crew were in radio contact with Johannesburg Information East on the very high frequency (VHF) 129.10-MHz; they were informed that the area they were flying into was encountering instrument meteorological conditions (IMC). *The runway lights at FAGY needed to be activated through several clicks on the designated aerodrome frequency; FAGY only has precision approach path indicator (PAPI) lights for Runway 24. The aerodrome also has a requirement that pilot(s) must be instrument flight (IF) rated to land at night.* Neither of the crew members met the requirements to land at FAGY. The ZS-CZU PF requested Johannesburg Information East to assist them in contacting someone at FAGY to switch on the runway lights, but to no avail. FAGY is also equipped with a Doppler VHF Omnidirectional Range (DVOR). *The DVOR is a ground-based radio navigation aid used in aviation to help aircraft determine their position and heading relative to a ground station. It provides pilots with bearing information, enabling them to navigate along established air traffic control routes, instrument approach procedures, and departure paths. DVORs are particularly useful for en route navigation and for guiding aircraft during terminal procedures and approaches.*

1.1.4 The ZS-CZU PF stated that they had no visual reference to the ground as he was flying in IMC in misty conditions. The ZS-CZU pilot-in-command (PIC) had a map of the area and the navigational software on the iPad at her disposal, which she used to assess the terrain below them at the time; she concluded that it was mostly agricultural land. The PF decided to enter a controlled descent to 4 500ft with constant reference to the artificial horizon (AH) at a speed of between 80 to 85 miles per hour (mph). He then maintained a height of 4 500ft while the PIC tried to determine the elevation of the terrain below them, which was approximately 3 500ft, which meant that they were approximately 1 000ft above ground level (AGL). At this stage, they still had no visual reference to the ground. The PF stated the following: *“I made the decision to crash the aircraft while the PIC was still trying to communicate with ZS-KFB because I knew she was going to be afraid if I had told her about the idea. I made the decision to continue descending at a stable descent until we crashed. The idea of not continuing to Greytown came to mind when I thought we were going to have a bigger impact because we could not see anything.”* The aircraft sustained substantial damage during the forced landing in the sugarcane field. The PIC sustained minor injuries when her face impacted the instrument panel during the forced landing; the PF was not injured.

1.1.5 Figure 1 shows the iPad software application flight track (blue line). The software application, however, stopped recording when the aircraft was a few miles towards north-west of Greytown. The accident site was approximately 3 nautical miles (nm) south-west of Greytown.

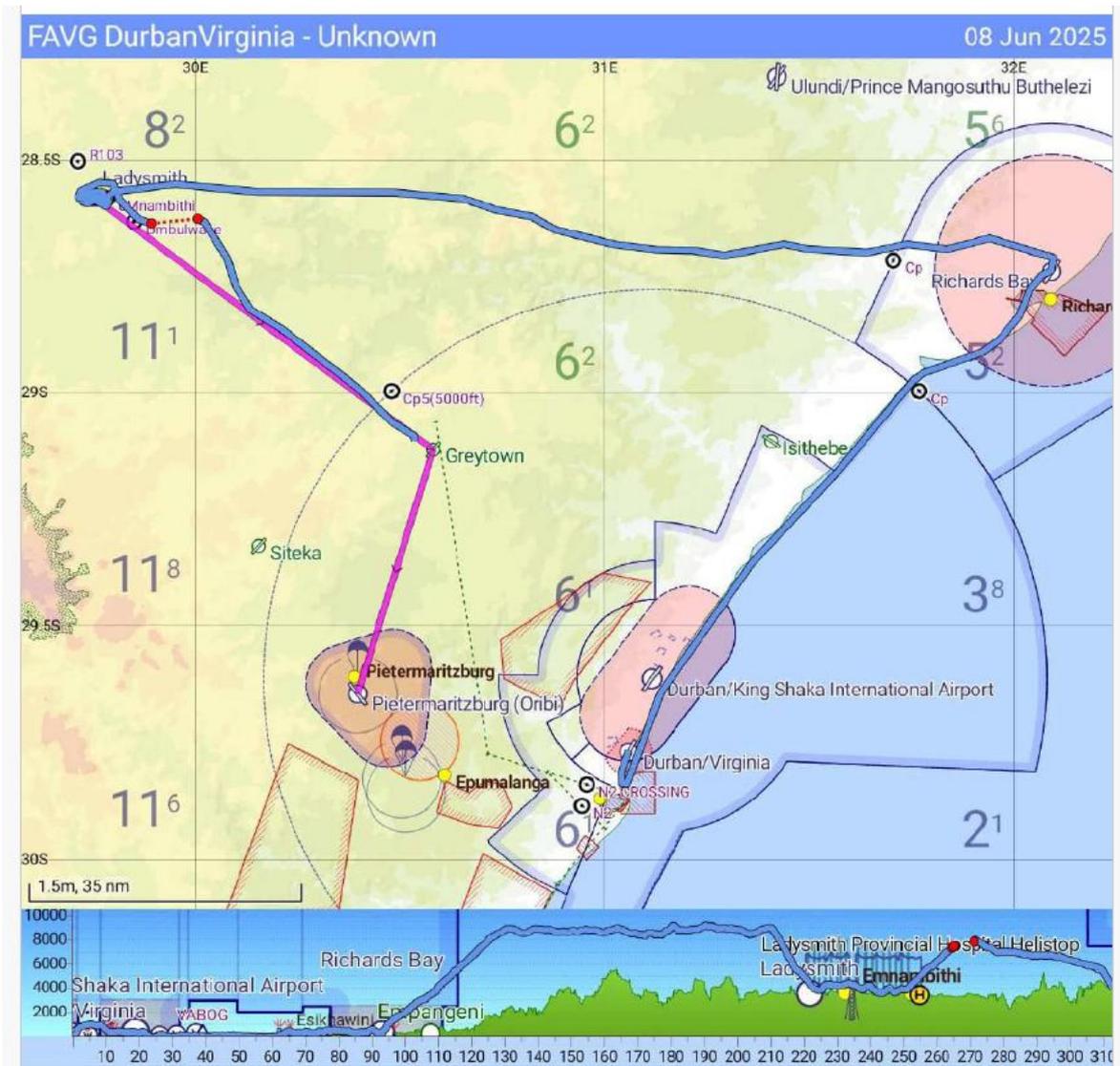


Figure 1: The flight track that was downloaded from the iPad.

- 1.1.6 After the accident, the PF called one of the pilots on-board the ZS-EIL aircraft to inform him that they had crashed in a sugarcane field south-west of Greytown. Thereafter, at 1631Z, the ZS-EIL pilot informed the Aeronautical Rescue Co-ordination Centre (ARCC) about the accident. An official search for the aircraft commenced, and the ZS-CZU PF was contacted to send a pin location to the ARCC. The local police and emergency services were also notified about the accident. The emergency services were the first to arrive at the scene at 1810Z, which was 2.8nm west of FAGY and 33nm north of FAPM.
- 1.1.7 The accident occurred during nighttime at Bloemhof Farm, approximately 3nm south-west of Greytown at Global Positioning System (GPS) co-ordinates determined to be 29°06'13.60" South 030°32'13.22" East, at an elevation of 3 821 feet (ft).

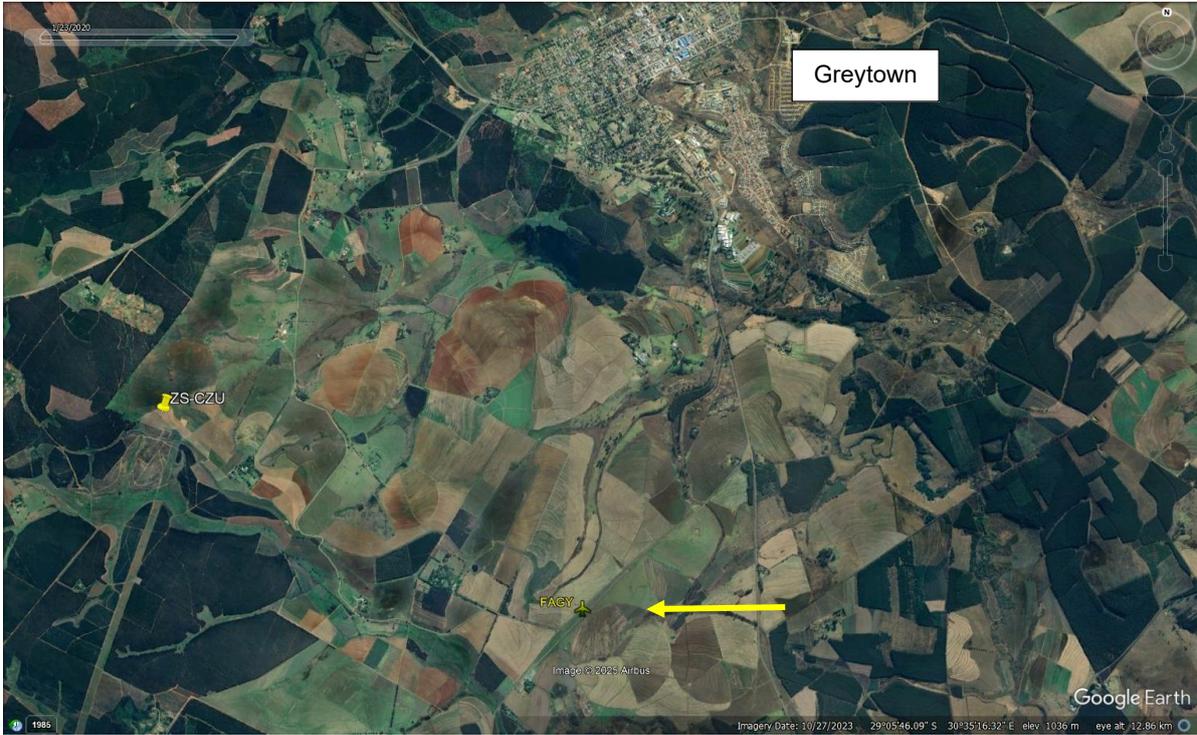


Figure 2: The position of ZS-CZU with reference to FAGY and Greytown. (Source: Google Earth)

1.2 Injuries to Persons

Injuries	Pilot	Crew	Pass.	Total On-board	Other
Fatal	-	-	-	-	-
Serious	-	-	-	-	-
Minor	1	-	-	1	-
None	1	-	-	1	-
Total	2	-	-	2	-

Note: Other means people on the ground.

1.3 Damage to Aircraft

1.3.1 The aircraft sustained substantial damage to the right wing, which twisted approximately 120° and partially separated from the fuselage.

1.4 Other Damage

1.4.1 Approximately 100 square metres of sugarcane crops were destroyed during the impact sequence.

1.5 Personnel Information

1.5.1 Pilot-in-command (PIC)

Nationality	Ugandan	Gender	Female	Age	22
Licence Type	Private Pilot Licence (PPL)				
Licence Valid	Yes	Type Endorsed	Yes		
Ratings	Night rating				
Medical Expiry Date	31 July 2027 (Class 2)				
Restrictions	None				
Previous Accidents	None				

Note: Previous accidents refer to past accidents the pilot was involved in, when relevant to this accident.

Flying Experience:

Total Hours	139.8
Total Past 90 Days	20.3
Total on Type Past 90 Days	15.8
Total on Type	118.5

1.5.2 Pilot Flying (PF)

Nationality	South African	Gender	Male	Age	24
Licence Type	Private Pilot Licence (PPL)				
Licence Valid	Yes	Type Endorsed	Yes		
Ratings	None				
Medical Expiry Date	30 September 2027 (Class 2)				
Restrictions	None				
Previous Accidents	None				

Note: Previous accidents refer to past accidents the pilot was involved in, when relevant to this accident.

Flying Experience:

Total Hours	88.2
Total Past 90 Days	N/A
Total on Type Past 90 Days	N/A
Total on Type	N/A

According to the PF's PPL and logbook, he had only flown the Cessna 172 aircraft. The Piper PA-28-180 aircraft was not endorsed on his logbook or licence; however, he was the pilot flying when the accident occurred. He had also logged 4.9 hours on a flight simulation training device (FSTD) with the last entry dated 17 September 2024. It was further noted that his last flight recorded in his logbook was on a Cessna 172 on 30 December 2024.

1.6 Aircraft Information

1.6.1 Piper PA-28-180 (Source: www.globalair.com)



Figure 3: The file picture of the ZS-CZU aircraft. (Source: Flight Zone Aviation Photography)

The Piper PA-28-180 is a four-seat light aircraft built by the Piper Aircraft Corporation and designed for flight training, air taxi and personal use. The PA-28 family of aircraft comprises all-metal, unpressurised, single piston-engine aeroplanes with low-mounted wings and a fixed tricycle landing gear. They have a single door on the right side, with the wing used as a step to enter the aircraft.

Airframe:

Manufacturer/Model	Piper Aircraft Corporation/PA-28-180	
Serial Number	28-971	
Year of Manufacture	1966	
Total Airframe Hours (at time of the accident)	3 878.05	
Last Inspection (Hours & Date)	3 804.28	18 October 2024
Airframe Hours Since Last Inspection	74.77	
CRS Issue Date	18 October 2024	
C of A (Issue Date & Expiry Date)	12 September 2003	30 January 2026
C of R (Issue Date) (Present Owner)	2 July 2021	
MTOW	1 088kg (2 400lbs)	
Type of Fuel Used	Avgas	
Operating Category	Standard Normal Category (Aeroplane)	
Previous Accidents	The aircraft was involved in a serious incident on 14 September 2021 when the nose gear broke off during landing on Runway 11 at	

	<p>Wonderboom Aerodrome (FAWB). AIID file reference No. CA18/3/2/1372</p> <p>The aircraft was involved in an accident on 11 November 2021 when the nose gear broke off during landing on Runway 29 at FAWB. AIID file reference No. CA18/2/3/10073</p> <p>The aircraft was involved in an accident on 22 June 2024, on Runway 29 at FAWB. The aircraft had a propeller strike, and it veered off the runway. The engine was removed and sent for a shock-load inspection at an approved engine overhaul facility. On 17 October 2024, the engine was reinstalled in the aircraft, and a new propeller was fitted. AIID file reference No. CA18/2/3/10466</p>
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Note: Previous accidents refer to past accidents the aircraft was involved in, when relevant to this accident.

Engine:

Manufacturer/Model	Lycoming O-360-A4A
Serial Number	L-18900-36A
Hours Since New	3 842.75
Hours Since Overhaul	1 384.38

The aircraft is powered by a Lycoming O-360-A4A four-cylinder, direct drive, horizontally opposed engine rated at 180 horsepower (HP) at 2 700 RPM. It is furnished with a starter, 60-ampere 12-volt alternator, shielded ignition, vacuum pump drive, fuel pump and a dry, automotive-type carburettor air filter. The exhaust system is of the cross-over type to reduce back pressure and improve performance.

Propeller:

Manufacturer/Model	Sensenich 76EM8S5-0-60
Serial Number	106581K
Hours Since New	74.77
Hours Since Overhaul	TBO not yet reached

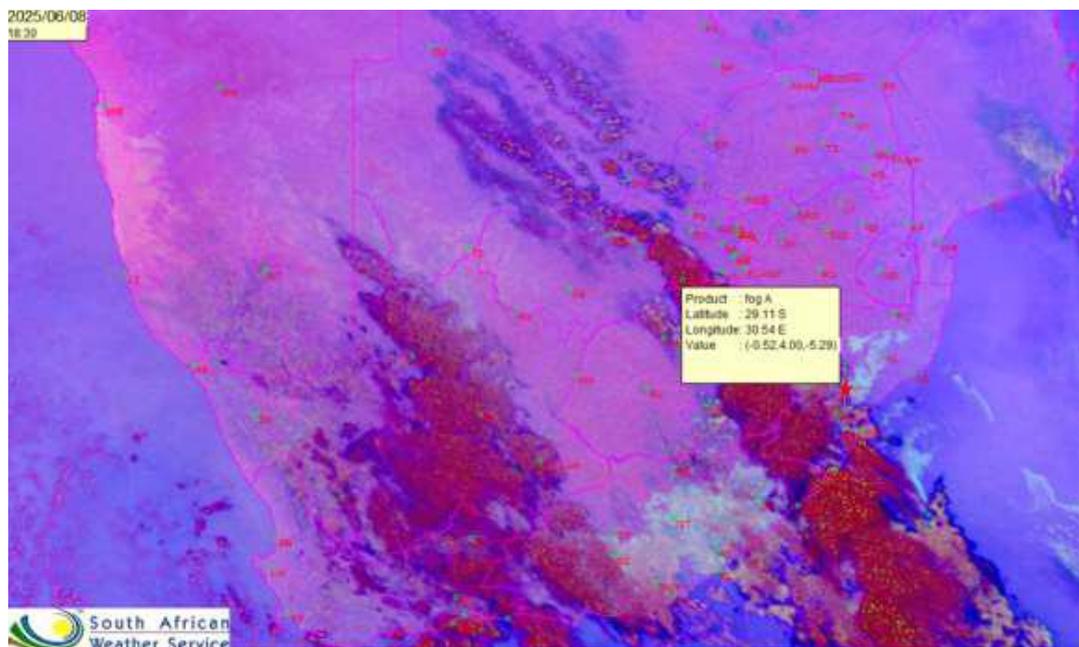
The aircraft was fitted with a fixed-pitch propeller, forged from a one-piece alloy.

1.7 Meteorological Information

- 1.7.1 An official weather report was obtained from the South African Weather Service (SAWS) after the accident.

Satellite Image

The Night Microphysical RGB satellite imagery of the MeteoSat Second Generation (MSG) from EUMETSAT taken at 1830Z indicated low clouds in greyish colour with possible low visibility (see imagery). There were active thunderstorms to the south/south-west of the accident site.



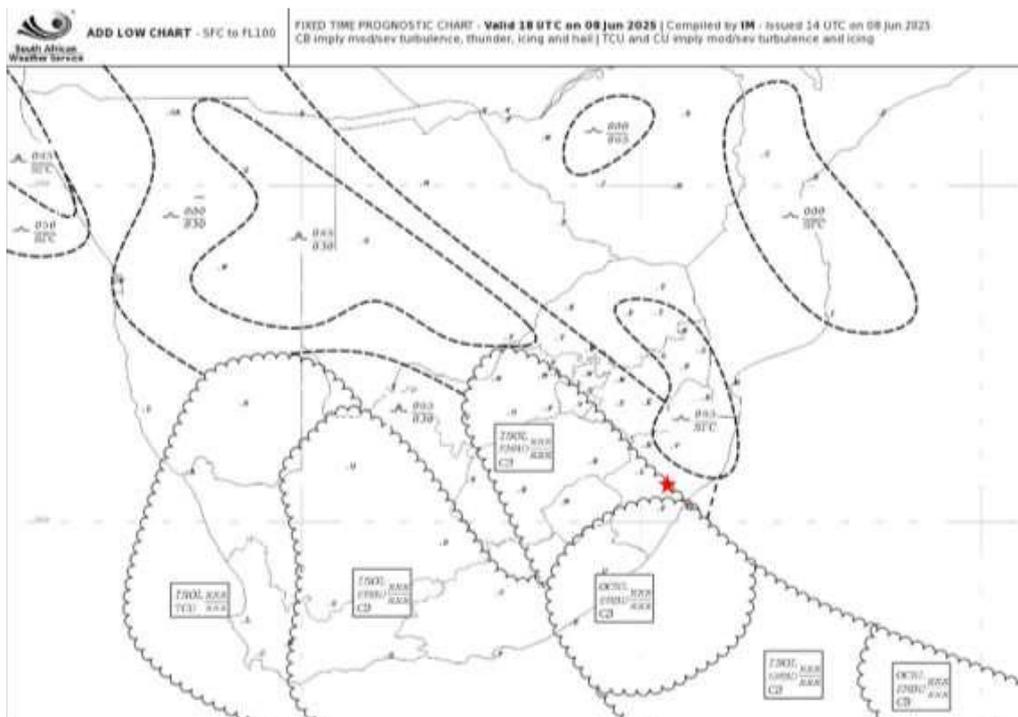
Significant Weather Charts

The low-level Significant Weather (SigWx) chart that was issued at 1400Z and valid for 1800Z on 8 June 2025, forecasted low-level cloud with reduced visibility in mist (see low-level chart). The forecast also showed that there were embedded cumulonimbus clouds in the vicinity where visibility was expected to reduce to 3000m in thundershowers. The site of the accident is approximated with a red star.



The 1800Z low-level SigWx chart for 8 June 2025.

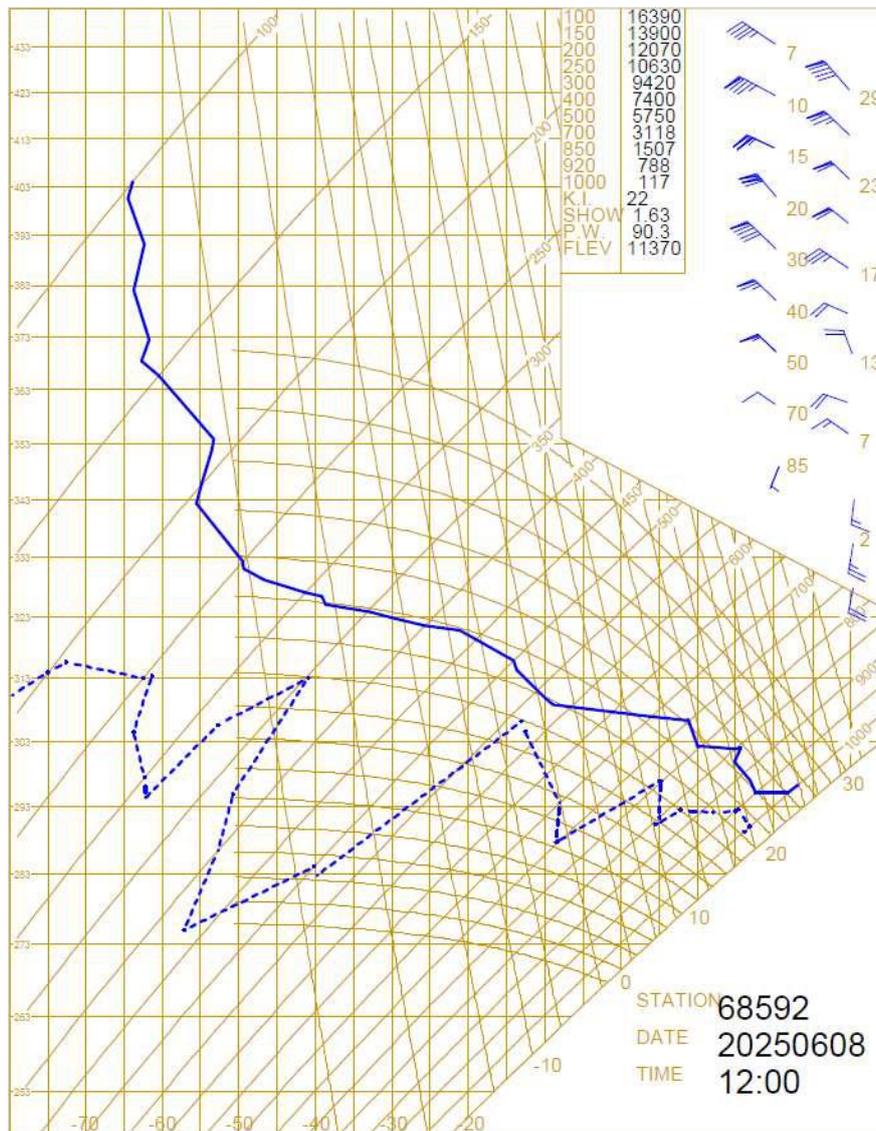
An additional low-level SigWx chart that was issued at 1400Z and valid for 1800Z on 8 June 2025 forecasted embedded cumulonimbus cloud with moderate low-level turbulence from surface to 8000ft, east/north-east of the accident site (see Figure 7). The red star (below) indicates the accident site.



The 1800Z additional low-level SigWx chart for 8 June 2025.

Upper Air Analysis

The 1200Z midday upper air ascent from FALE (68592) showed moist and unstable (K-index was 22) conditions. There was inversion at the surface, and the wind at the surface was a moderate to a strong southerly to south-westerly (20 to 25 kts above 850hPa in the lower level of the atmosphere).



The 1200Z midday upper air ascent from FALE for 8 June 2025.

1.7.2 The meteorological aerodrome report (METAR) for FAPM on 8 June 2025 at 1600Z and 1700Z was as follows:

FAPM 081600Z 12008KT 7000 BKN013 17/14 Q1015=

Wind Direction	120°	Wind Speed	8kt	Visibility	7 000 m
Temperature	17°C	Cloud Cover	5 to 7 oktas	Cloud Base	1 300 ft
Dew Point	14°C	QNH	1015hPa		

FAPM 081700Z 12008KT 7000 BKN013 16/14 Q1016=

Wind Direction	120°	Wind Speed	8kt	Visibility	7 000 m
Temperature	16°C	Cloud Cover	5 to 7 oktas	Cloud Base	1 300 ft
Dew Point	14°C	QNH	1016hPa		

1.7.3 Official sunset time on 8 June 2025 in Ladysmith was 1511Z.

(Source: <https://www.timeanddate.com/sun/@984998?month=6&year=2025>)

1.8 Aids to Navigation

1.8.1 The aircraft was equipped with standard navigational equipment as approved by the Regulator (SACAA). There were no records indicating that the navigational equipment was unserviceable before the flight.

1.9 Communication

1.9.1 The aircraft was equipped with a standard communication system as approved by the Regulator. There were no recorded defects with the communication system before the flight.

1.9.2 The crew was in radio contact with Johannesburg Information East on the VHF 129.10-MHz shortly before the accident occurred.

1.10 Aerodrome Information

1.10.1 The aircraft crashed 52nm from FALY and 2.8nm west of FAGY, which is a licensed aerodrome. The aerodrome chart is attached as Appendix A.

Aerodrome Name	Greytown Aerodrome (FAGY)
Aerodrome Location	Greytown, KwaZulu-Natal
Aerodrome Status	Licensed
Aerodrome GPS coordinates	29°07'17.47" South, 030°35'14.12" East
Aerodrome Elevation	3 531ft
Runway Headings	06/24
Runway Dimensions	1 462m x 11m

Runway Used	Not applicable
Runway Surface	Asphalt
Approach Facilities	Runway lights, PAPI lights for Runway 24, DVOR/DME (GYV – 113.50 MHz),
Radio Frequency	123.50 MHz
NOTE	<ol style="list-style-type: none"> 1. Prior permission required. 2. Instrument rating required for night operations. 3. Night operations are strictly prohibited except for specifically authorised pilots.

1.10.2 The flight instructor who was on-board ZS-EIL advised both crew of ZS-CZU and ZS-KFB to divert to FAPM, which was 72nm from FALY. This aerodrome had all the required facilities, including a manned tower.

Aerodrome Name	Pietermaritzburg Aerodrome (FAPM)
Aerodrome Location	Pietermaritzburg, KwaZulu-Natal
Aerodrome Status	Licensed
Aerodrome GPS coordinates	29°38'48.44" South, 030°23'51.98" East
Aerodrome Elevation	2 423ft
Runway Headings	16/34
Runway Dimensions	1 537m x 30m
Runway Used	Not applicable
Runway Surface	Asphalt
Approach Facilities	Runway lights, PAPI lights for both runways, VOR/DME (PMV – 117.90-MHz), RNP Approach Runway 16
Tower Frequency	122.00-MHz
Caution	<ol style="list-style-type: none"> 1. Straight-in visual approach Runway 16 is prohibited at night. 2. High concentration of birds alongside Runway 16/34.

1.11 Flight Recorders

1.11.1 The aircraft was neither equipped with a flight data recorder (FDR) or a cockpit voice recorder (CVR), nor was it required by regulation to be fitted to the aircraft type.

1.12 Wreckage and Impact Information

1.12.1 The aircraft impacted the sugarcane crops that were ready for harvesting at Bloemhof Farm. It came to a stop in a nose-down, wings-level attitude, approximately 30 metres (m) from the first contact with the sugarcane crops which acted as an arresting medium. The right wing separated where it attaches to the fuselage and twisted approximately 120°. The access door on the right side of the aircraft could be easily opened after the accident. The left wing, propeller and part of the engine nacelle were covered under the sugarcane crops. It was possible to ascertain that a substantial amount of fuel was still in the left-wing tank; the fuel selector in the cockpit was selected to the left tank. The aircraft came to rest 2.8nm west of FAGY and 220m from the high-tension powerlines that diagonally crossed their flight path.



Figure 4: The aircraft as it came to rest.



Figure 5: The twisted right wing with the main landing gear still attached.



Figure 6: The left-wing tip is almost buried underneath the sugarcane crops.



Figure 7: The high-tension power lines were 220m from the crash site.

1.13 Medical and Pathological Information

1.13.1 Not applicable.

1.14 Fire

1.14.1 There was no pre- or post-impact fire.

1.15 Survival Aspects

1.15.1 The accident was survivable as the dense sugarcane crops arrested the aircraft during the impact sequence; the sugarcane crops were approximately 3m in height (ready to be harvested).

1.15.2 The two occupants had made use of the aircraft's equipped safety harnesses. The PIC sustained minor facial injuries as she impacted the instrument panel during the accident sequence; the PF was not injured.



Figure 8: The cockpit remained intact.

1.16 Tests and Research

1.16.1 None.

1.17 Organisational and Management Information

1.17.1 All three aircraft were hired (hire-and-fly) from a flight school at FAWB and were operated under the provisions of Part 91 (Private) of the CAR 2011 as amended.

1.17.2 The ZS-CZU aircraft was maintained by an aircraft maintenance organisation (AMO) that was approved by the Regulator (SACAA).

1.18 Additional Information

1.18.1 Fuel Consumption

According to the Lycoming Operator's Manual for the O-360 through to the TIO-360 series engines, the fuel consumption for the O-360-A4A engine is given as follows:

Performance Cruise (75% Rate)	-	10.5 US gallons per hour (39.74 litres)
Economy Cruise (65% Rate)	-	9.5 US gallons per hour (35.96 litres)

The aircraft had a usable fuel capacity of 50 US gallons (188 litres), which is 94 litres per tank.

During recovery of the aircraft, 19 litres of fuel was drained from the left-wing tank and 36 litres from the right-wing tank, which equated to 55L in total.

1.19 Useful or Effective Investigation Techniques

1.19.1 None.

2. ANALYSIS

2.1 General

From the available evidence, the following analysis was made with respect to this accident. This shall not be read as apportioning blame or liability to any organisation or individual.

2.2 Analysis

2.2.1 Crew

The ZS-CZU crew had a combined flying experience of 228.0 hours; the PIC was the only one who was night-rated. The PIC was, however, not the PF at the time of the accident. Based on the video footage taken from inside the aircraft, the pilot on the right seat was the PF en route from FAVG to FARB. Once they failed to land at FALY and opted to make a diversion, the pilot on the right seat was still the PF, as per his statement and discussion during the interview with both crew members. The aircraft type was not endorsed on his logbook; he also did not have any ratings. The PIC became preoccupied during the flight as she kept communicating with the ZS-KFB crew. The second aircraft (ZS-KFB) was also unable to land at FALY and had to divert to an alternate aerodrome.

With the aircraft at a height of 4 500ft, which was approximately 1 000ft AGL at that stage, and with still no visual reference to the ground, the PF decided to enter what he described as a “stable descent” until the aircraft impacted the terrain (sugarcane field), the aircraft came to an abrupt halt in an upright position. The PF’s decision to perform this manoeuvre was regarded as the only option because they could not land at FAGY, and had they attempted to land at FAGY, the consequences might have been severe. The PF was, however, not certain what the outcome of his actions might be after deciding to execute a “stable descent”.

The PF, having entered a spiral descent to execute a “*controlled crash landing*” and without informing the PIC, did not know the state of the terrain below them or the obstacles (such as

high-tension wires, high ground, antennas, etc) that they might encounter. He indicated that the circumstances at the time did not allow for any other option as it was evident they were not going to be able to land at FAGY. Moreover, diverting to Pietermaritzburg Aerodrome (FAPM) or FAUL could have resulted in them running low on fuel as they had, according to their calculations, approximately 50 minutes of fuel endurance left in the tanks, of which 45 minutes was reserve fuel (as called for in the provisions of the CAR). The aircraft sustained substantial damage during the forced landing in the sugarcane field. The PIC sustained minor injuries when her face impacted the instrument panel during the forced landing; the PF was not injured.

During interviews with the four pilots (two from ZS-CZU and two from ZS-EIL) it was evident that the flight instructor who was one of the crew members on-board ZS-EIL played an important role in the decision-making process as the crew of ZS-CZU and ZS-KFB consulted with him on an on-going basis during the attempt to land at FALY. He was also the person who instructed them to divert to FAPM after they were unable to land at FALY, however, neither of the two crew members followed his suggestion; they relied on their own flying experience, which was limited at the time, to deal with the situation at hand. The outcome was the accident.

2.2.2 Aircraft

During the interview with both ZS-CZU crew members, they stated that there was no mechanical malfunction with the aircraft or any of their equipment that contributed to or could have caused the accident.

2.2.3 Flight Plan

A formation flight plan was filed with the appropriate authority by the ZS-CZU PIC for the flight from FAVG to FALY. The two alternate aerodromes selected were FAUL and FAGY. These aerodromes were ideal during daylight conditions; however, as soon as it became nighttime, landing at these two aerodromes required certain pilot qualifications and skills which the crew of ZS-CZU did not meet. This aspect was not considered when the flight plan was filed, rendering the two alternatives non-viable during night and IMC operations. The crew only became aware of these restrictions when they were in proximity to FAGY. The fact that a flight plan was filed allowed for the immediate activation of the official Search and Rescue (SAR) operation by the ARCC for both aircraft.

2.2.4 Alternate Aerodromes

It was clear from the reviewed evidence during the investigation that the crew, when selecting the two alternate aerodromes on the formation flight plan, did not take into consideration night

operations. It was further noted that the crew was not aware of the requirements at these two alternate aerodromes regarding night landing in IMC.

Their first alternative was FAUL, located 90nm from FALY, which was too far away. FAGY was 55nm from FALY but, like FAUL, had certain restrictions in place for night operations which the crew did not meet. However, the crew opted to fly to FAGY, which was in contradiction to what was discussed with the flight instructor who was one of the crew members and on-board the ZS-EIL aircraft. The flight instructor recommended that both aircraft divert to FAPM, which was 72nm from FALY, as the aerodrome hosted all the required facilities, including a manned tower with an ATC that was on duty at the time and who could have assisted both aircraft crew.

Another alternate aerodrome that was not considered by the two crew who failed to land at FALY was Newcastle Aerodrome (FANC), which was 50nm north of FALY. This aerodrome, however, also had no runway lights or any approach facilities that were operational at the time of the flight.

2.2.5 Environment

The flight originated in daylight VFR conditions, with the three aircraft flying low (video footage shared on social media) over the sea en route to FARB. Upon reaching Richards Bay, the three aircraft turned left, inland, and headed towards FALY, which was a distance of approximately 124nm. By the time they arrived overhead FALY it was nighttime. The aerodrome had no runway lights; however, the crew of ZS-EIL managed to land. The crew members of the other two aircraft were unable to land and opted to divert to an alternate aerodrome. During the flight in the vicinity of Greytown, they encountered IMC weather (PF stated it was misty) with no visual reference to the ground. Even after they had descended from 7 500ft to 4 500ft they were still unable to see terrain or any lights on the ground. The misty conditions went all the way to ground level, as confirmed by SAPS members and the farmer who also stated that very strong winds (*gale force* – according to the farmer) were blowing at the time.

2.2.6 Conclusion

The crew members on-board the three aircraft had no intention to deviate from their intended route by shortening the flight back to FALY so as to land at the aerodrome before the official sunset. They were well aware that there were no runway lights or any other associated facilities that could have assisted them in landing at FALY at night. A direct flight from FAVG to FALY is approximately 100nm; the scenic route the three aircraft took (flying along the

coast to Richards Bay and then turning inland) was approximately 208nm.

A substantial amount of time and fuel was also wasted by the crew of the two aircraft (ZS-CZU and ZS-KFB) as they flew three approaches each in an attempt to land at FALY at night. These actions were a clear indication of how desperate both crew members were to get on the ground at FALY. Moreover, these actions were not only unsafe, but also unlawful.

Of fundamental importance is that both aircraft were involved in accidents after they diverted from FALY to FAGY. Neither of the two crew members opted to divert to FAPM, which was the alternate aerodrome discussed and proposed by the flight instructor who was a crew member on-board the ZS-EIL aircraft. Completing proper planning and research of what the official requirements were to land at alternate aerodromes remains the key to determining if they were going to be accessible when the weather conditions change drastically or the flight transitions from day to night flying conditions, as was experienced during this accident. FAUL and FAGY were, therefore, not feasible alternatives as both required very specific requirements and flying skills for landing at night or in IMC. The ZS-CZU crew was also not familiar with the process to activate the runway lights at FAGY. FAUL, on the other hand, was too far from FALY, and the remaining fuel endurance did not allow the crew to consider this as an alternative as it was out of range.

The ZS-CZU crashed 52nm from FALY and 2.8nm from FAGY in a sugarcane field. During recovery of the aircraft, 55L of fuel was drained from the two fuel tanks. The crew was concerned that they might deplete the fuel endurance if they diverted from FALY directly to FAPM which could, therefore, be eliminated as an argument why they did not follow the recommended routing. They might not have met their 45-minute reserve limit as called for in the Regulations, but it could have prevented them from being involved in this accident, considering that this was a conscious decision made by the PF to perform a “*controlled crash*”, and not knowing what the outcome would be when he made that decision.

The fact that neither of the two aircraft diverted to FAPM, which was the alternate aerodrome discussed and proposed with the crew of ZS-CZU and ZS-KFB by the flight instructor who was also a crew member on-board ZS-EIL, should be regarded as a critical error by both aircraft crew members, as all the pertinent resources were available at FAPM. The decision to divert to FAGY resulted in both aircraft being involved in accidents, with all three occupants on-board ZS-KFB being fatally injured. The outcome for the crew of ZS-CZU could have been the same as the PF had no idea what the result of his decision was going to be.

This accident would have been avoidable if better flight planning was followed and if the three aircraft had deviated from their intended route by flying directly from FAVG to FALY instead of flying from FAVG to FARB and then to FALY. Flying from FAVG directly to FALY was nearly half the distance of the scenic route (flying low level over the sea) they opted for.

3. CONCLUSION

3.1 General

From the available evidence, the following findings, causes, and contributing factors were made with respect to this accident. These shall not be read as apportioning blame or liability to any organisation or individual.

To serve the objective of this investigation, the following sections are included in the conclusion heading:

- **Findings** — are statements of all significant conditions, events, or circumstances in this accident. The findings are significant steps in this accident sequence, but they are not always causal or indicate deficiencies.
- **Causes** — are actions, omissions, events, conditions, or a combination thereof, which led to this accident.
- **Contributing factors** — are actions, omissions, events, conditions or a combination thereof, which, if eliminated, avoided or absent, would have reduced the probability of the accident occurring, or would have mitigated the severity of the consequences of the accident. The identification of contributing factors does not imply the assignment of fault or the determination of administrative, civil, or criminal liability.

3.2 Findings

Crew

- 3.2.1 The pilot-in-command (PIC) had a Private Pilot Licence (PPL) that was issued by the Regulator on 21 June 2024 with an expiry date of 31 May 2025. The PIC was granted a 30-day licence extension with an expiry date of 30 June 2025. She had flown a total of 139.8 hours of which 118.5 hours were on the aircraft type.
- 3.2.2 The PIC had a Class 2 aviation medical certificate that was issued on 12 July 2022 with an expiry date of 31 July 2027. There were no limitations endorsed on her medical certificate.
- 3.2.3 The PIC had a night rating but was not controlling the flight controls at the time of the accident.
- 3.2.4 The PIC had an iPad in her possession as the aircraft was fitted with conventional navigational instrumentation. She made use of an aviation application that she had downloaded for navigational purposes. The weather information was obtained from an application that she had on her cellular phone. The PIC could not provide the official source of the weather data used by the application.

- 3.2.5 The pilot flying (PF) had a Private Pilot Licence (PPL) that was issued by the Regulator on 18 January 2025. The pilot had flown a total of 88.2 hours of which 4.9 hours were on a flight simulation training device (FSTD). The pilot had no night rating or any other rating but was manipulating the flight controls during the accident, which occurred at night.
- 3.2.6 The PF had a Class 2 aviation medical certificate that was issued on 2 September 2022 with an expiry date of 30 September 2027. There were no limitations endorsed on his medical certificate.
- 3.2.7 The PF was not type-rated on the Piper PA-28-180. He only had a Cessna 172 endorsed on his licence and logbook.
- 3.2.8 The PF made a conscious decision to perform a “*controlled crash landing*” during IMC without informing the PIC of his intentions; he also did not know what the outcome of his decision was going to be.

Aircraft

- 3.2.9 The last maintenance inspection of the aircraft was conducted and certified on 17 October 2024 at 3 804.28 airframe hours. The aircraft had accrued 74.77 hours since the said inspection.
- 3.2.10 The Certificate of Registration (C of R) was issued to the present owner on 2 July 2021.
- 3.2.11 The Certificate of Airworthiness (C of A) was initially issued on 12 September 2003. The latest C of A had an expiry date of 30 January 2026.
- 3.2.12 The Certificate of Release to Service (CRS) was issued on 17 October 2024 at 3 804.28 airframe hours. It was valid until 16 October 2025 or at 3 904.28 airframe hours, whichever comes first.
- 3.2.13 The aircraft was involved in an accident on 11 November 2021, as well as sustained damage to its propeller on 22 June 2024 (which required an engine shock load and a new propeller).
- 3.2.14 According to the recovery team, they drained 19 litres of fuel from the left tank and 36 litres from the right tank.

Environment

- 3.2.15 The official weather report obtained from the South African Weather Service (SAWS) indicated that inclement weather conditions prevailed in the Greytown area at the time of the

flight, which is consistent with the statement presented by the PF and the information that was given to the crew by Johannesburg Information East.

Aerodromes

3.2.16 Ladysmith Aerodrome (FALY) is licensed but has no runway lights or navigational aids.

3.2.17 Ulundi Aerodrome (FAUL) was the crew's first alternate aerodrome on the filed flight plan. FAUL is licensed; however, the aerodrome chart states: "*For night operations, the pilot must hold a valid instrument rating and be familiar with the immediate surroundings of the aerodrome. Instrument approach procedures must be used for letdown.*" FAUL was 92nm from FALY and 66nm north-east of the accident site.

3.2.18 Greytown Aerodrome (FAGY) was the crew's selected second alternate aerodrome on the filed flight plan. FAGY is licensed with runway lights and approach lights for Runway 24; however, the runway lights needed to be activated from the aircraft. The crew was unfamiliar with the procedure of switching on the lights. There was also a DVOR navigational beacon at the aerodrome. Furthermore, the aerodrome chart stated that "*to land at this facility at night, pilot(s) need to be IF-rated*"; neither of the crew members complied with this requirement. The accident site was 2.8nm west of FAGY (see Figure 2).

3.2.19 Pietermaritzburg Aerodrome (FAPM) was another aerodrome available as an option. The flight instructor, who was one of the crew members on-board ZS-EIL, had advised the two aircraft to divert to FAPM but the crew was concerned about whether the available fuel (at the time) was enough to get them to the suggested aerodrome. FAPM is licensed with all the required facilities available, including air traffic control. FAPM was 72nm from FALY and 33nm south of the accident site.

3.3 Probable Cause

3.3.1 The crew failed to land at FALY before the official sunset after performing three missed approaches; thereafter, they opted to divert to FAGY, which was their second alternate aerodrome on their flight plan. Neither of the crew members was IF rated, which was a requirement to land at FAGY at night. They entered IMC weather and the PF made a conscious decision to perform a stable descent (*controlled crash*) until they impacted the terrain (sugarcane field).

3.4 Contributory Factors

3.4.1 The PF decided to enter a "controlled descent" until the aircraft impacted the terrain as they were flying in IMC. At his flying experience level, he made the decision which, to him, was

the best option at the time, no matter what the outcome was going to be.

- 3.4.2 The alternate aerodromes that were entered on the flight plan were FAUL and FAGY. Both these aerodromes had restrictions in place as the pilots must be IF-rated to land at night, which the crew did not comply with. As a result, these two aerodromes were not an option as alternates at night. This reflects poor flight planning. Both alternative aerodromes were not viable options after official sunset.
- 3.4.3 FAPM was the alternate aerodrome that the flight instructor on-board ZS-EIL recommended that the two aircraft divert to. FAPM is a licensed aerodrome and had an ATC on duty at the time. A special request was made to ATC to extend their duty period to assist both ZS-CZU and ZS-KFB. However, neither of the two crew opted to divert to FAPM, which was 72nm from FALY.
- 3.4.4 A significant contributory factor to this accident is that the three crew members neither opted to depart earlier from FAVG, nor did they, at any point along the route from FAVG to FARB, revise their routing and opt to fly directly to FALY to ensure they landed there before it was dark.
- 3.4.5 If the group had cancelled the planned excursion in Durban and departed earlier on 8 June 2025, they would have likely avoided flying into poor weather conditions at night.

4. SAFETY RECOMMENDATIONS

4.1 General

The safety recommendations listed in this report are proposed according to paragraph 6.8 of Annex 13 to the Convention on International Civil Aviation and are based on the conclusions listed in heading 3 of this report. The AIID expects that all safety issues identified by the investigation are addressed by the receiving States and organisations.

4.2 Safety Recommendations

- 4.2.1 After the accident, a recommendation was submitted to the Director of Civil Aviation recommending that the pilots of ZS-CZU be subjected to remedial training, which would include a meteorology lecture, as well as an approved training organisation (ATO) drafted meteorology examination. It was recommended that the pilots rewrite the Air Law examination before commencing any further flight activities.
- 4.2.2 It was recommended that the Director of Civil Aviation review the actions of the ZS-CZU crew and implement a remedial action because of their poor planning which placed them in IMC

at night and because of their decision to divert to an alternate aerodrome for which they were not qualified to land at night.

- 4.2.3 It was recommended that the Director of Civil Aviation review the actions of the ZS-EIL crew who landed after sunset at FALY and departed during official nighttime for FAWB on 8 June 2025 from an aerodrome that did not have any runway lights.

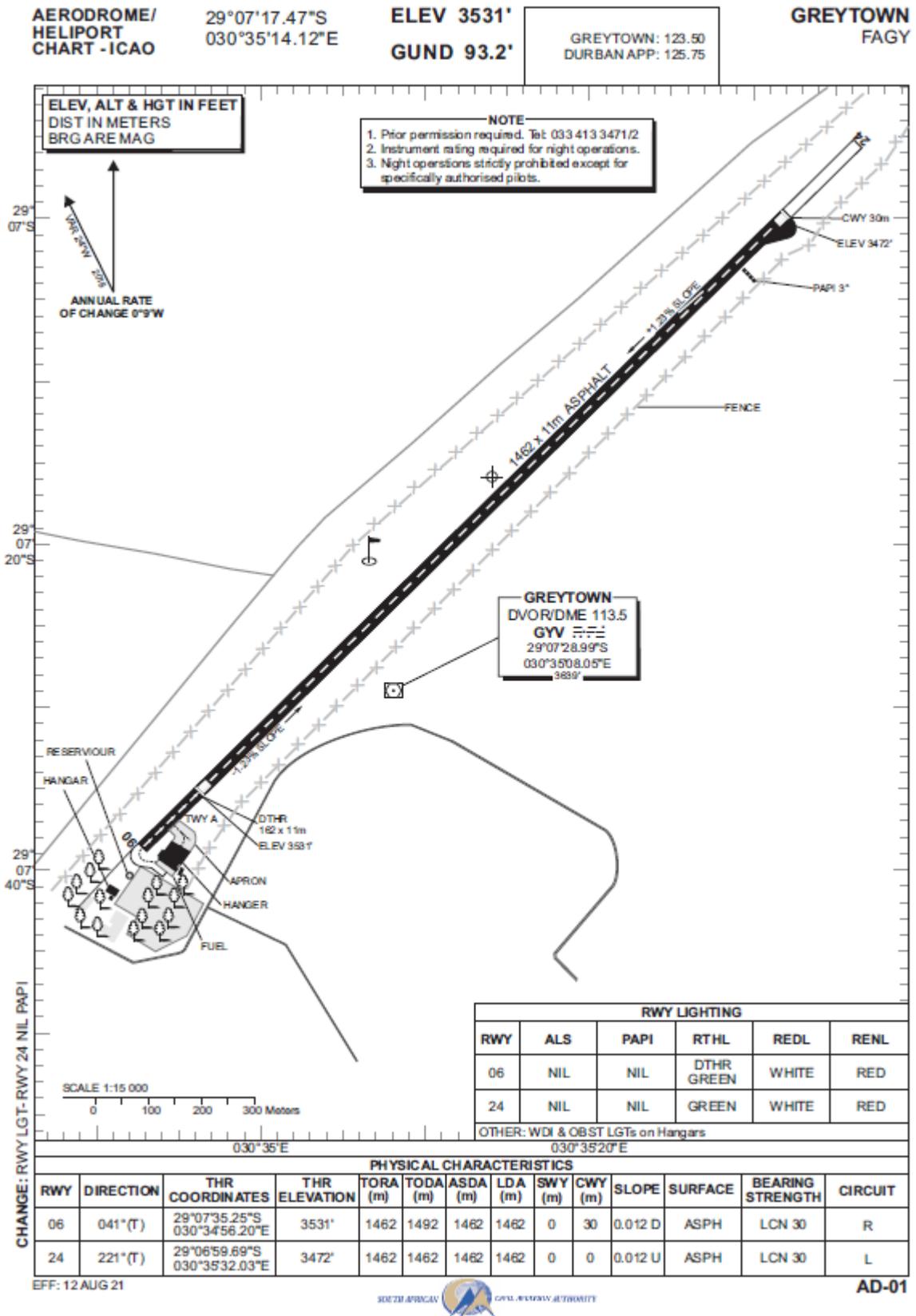
5. APPENDICES

- 5.1 Appendix A (Greytown Aerodrome Chart)
5.2 Appendix B (Ulundi Aerodrome Chart)

This report is issued by:

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

Appendix A



Appendix B

