

Preliminary Accident Investigation Report

Reference Number: SAHPA/151/17/02/2025

Date of Accident: February 8, 2025

Time of Accident: 12:20 SAST

Location: Coetzenburg, Stellenbosch Mountain, Western Cape Province

GPS coordinates: -33.943803, 18.876913

Aircraft Type: Paraglider (Air Design Rise 5)

Investigation Authority: South African Hang Gliding and Paragliding Association (SAHPA)

Date of Report: 2 Apr 2026

Volunteer Investigator: Francois Malan Joubert

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EXECUTIVE SUMMARY

On Saturday, February 8, 2025, at approximately 12:20 local time, a fatal paragliding accident occurred on the western slope of Stellenbosch Mountain in the Western Cape Province of South Africa. The pilot was conducting a solo recreational flight from the lower launch site on Stellenbosch Mountain.

During his descent phase, while attempting to navigate toward the Coetzenburg landing field, the pilot experienced a wing collapse followed by an unrecoverable spiral. He impacted the terrain at high speed and sustained fatal injuries. Multiple witnesses observed the accident. The pilot was severely injured and taken to hospital by ambulance, where he later succumbed to his injuries.

The investigation determined that the probable cause of the accident was a sudden asymmetric collapse followed by a rapid spiral descent at an altitude insufficient for recovery or reserve parachute deployment.

Contributing factors included:

1. Pre-frontal weather conditions with strong thermal activity and increasing wind speeds
2. Mechanical turbulence and rotor effects from the terrain configuration
3. The pilot's limited recent flying experience with a relatively new high-B class paraglider
4. Flying the glider above its maximum rated weight range
5. The pilot's decision to fly in challenging conditions during a period of rapidly changing weather

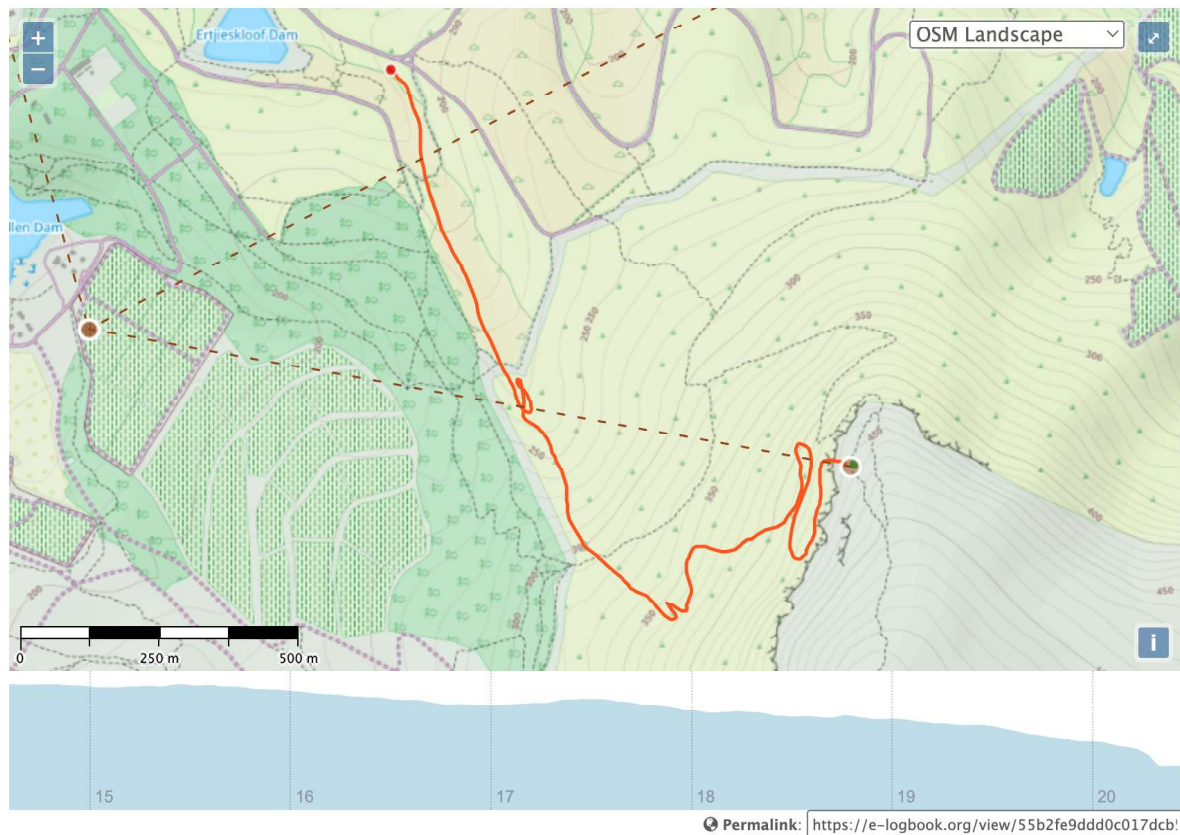
FACTUAL INFORMATION

History of Flight

On the morning of February 8, 2025, the pilot arrived at Stellenbosch Mountain with the intention of flying. According to witness statements, the weather was clear with light thermal activity in the morning. The pilot chose to launch from the lower launch site, located just above the hiking path on Stellenbosch Mountain.

The pilot took off at approximately 12:14 local time, with very little wind present at the launch site itself. Multiple witnesses reported that the air felt unstable and was becoming increasingly turbulent.

The IGC tracklog data recovered from the pilot's mobile device shows that after launch, the pilot gained some altitude while ridge soaring. Approximately 5 minutes into the flight, the pilot began to descend toward the Coetzenburg landing fields. According to a witness report by a fellow pilot, the conditions had become increasingly turbulent by this time.



At approximately 12:20, as the pilot was flying low in a gully towards the landing field, his paraglider experienced a sudden collapse on the left side. The collapse progressed into a rapid spiral descent towards the right (clockwise). The pilot was unable to recover from this spiral due to insufficient altitude. He impacted the terrain at a high angular velocity and high descent speed on the slope of the mountain.

First responders reached the pilot within minutes of the impact. Despite immediate first aid efforts, the pilot had sustained severe injuries. The pilot was taken to hospital by ambulance but eventually succumbed to his injuries at the hospital.

Injuries to Persons

Injuries	Pilot	Crew	Passengers	Total
Fatal	1	0	0	1
Serious	0	0	0	0
Minor	0	0	0	0
None	0	0	0	0

Damage to Paraglider

Post-accident inspection conducted by Gordon Taylor at Wallend Air indicated multiple tears in the leading edge of the paraglider, primarily from the center toward the left wing tip. According to the inspection report, these tears were consistent with impact damage rather than in-flight structural failure.

		Service Date: 20/2/2025																			
		Airworthiness extended Until 20/2/2026																			
SERVICE CERTIFICATE																					
This is to Certify that																					
Reachable by:			&																		
Had His/ Her	Solo	Air Design	Rise 5																		
Serial # :	XB42M3P241224P0	Year:	01/05/2024																		
Colour:	red orange yellow		Size M																		
Accompanied with:			Harness																		
And			Reserve																		
Inspected by	Wallend-Air Service Center																				
The Glider has undergone the following inspections - Here are the findings																					
Visual Check	Passed																				
Trim Check	Within Trim specification - No Adjustment needed																				
Tear Resistance	Not Required!																				
Connecting Parts	Passed/Acceptable																				
Zero Porosity	As New																				
(See Values Below)																					
Top Skin Porosity Values																					
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2549.8 Left Middle 1725.7 Right Sec																					
Overall Condition of glider: Like New, Very Good Condition																					
With the results after inspecting the above mentioned Glider it has been found to be Airworthy																					
Inspected by: 																					
has been performed on your wing. Therefore it is necessary for you to ground handle the wing and inspect it before your																					
Wallend-Air Paragliding 368 Main Rd Wynberg Cape Town 7800 Tel: +27(0)21 762 2441																					

Service Certificate of the Glider post-accident

The porosity of the glider was still excellent, indicating the wing material was in good condition prior to the accident.

The lines were reported to be in good condition without twists between the glider and risers. The trim check showed the glider was mostly symmetrical with minor deviations within normal parameters.

Personnel Information

Age: 53 (Born May 16, 1971)

Gender: Male

License Type: Basic Paragliding License

License Validity: Valid until October 31, 2025

Medical Declaration: Self-declared fit to fly on October 6, 2023

Flying Experience: According to the pilot's logbook and SAHPA license renewal application:

- Total flights: 161 flights prior to the accident
- Total flight hours: 56.6 hours
- Recent experience: 41 flights and 28 hours, in the 12 months prior to his accident according to his logbook.

The pilot had upgraded most recently to an Air Design Rise 5 (high EN-B class) in late 2024, approximately 2-3 months before the accident. This upgrade was in the middle of the summer paragliding season in South Africa.

His first flight on the new Air Design Rise 5 was on 30 November 2024, and he had a total of 8 flights on the new glider before the accident.

Records indicate the pilot had not undertaken formal Safety Maneuvers (SIV) training, though correspondence shows he had planned to attend an SIV course in Turkey in April 2025.

Paraglider Information

Glider:

- Make: Air Design
- Model: Rise 5
- Size: M
- Serial Number: XB42M3P241224P0
- Manufacture Date: May 1, 2024
- EN/LTF Certification: B
- Color: Red/Orange/Yellow
- Weight Range: 85-105 kg
- Time in Service: New (acquired November 2024)

According to the manufacturer's specifications, the Air Design Rise 5 is classified as a high-B performance wing with an aspect ratio of 5.85, which is at the upper end of the B category.

The manufacturer describes it as suitable for "ambitious cross-country pilots and experienced thermal pilots."

Harness:

- Make: Advance
- Model: Success 3

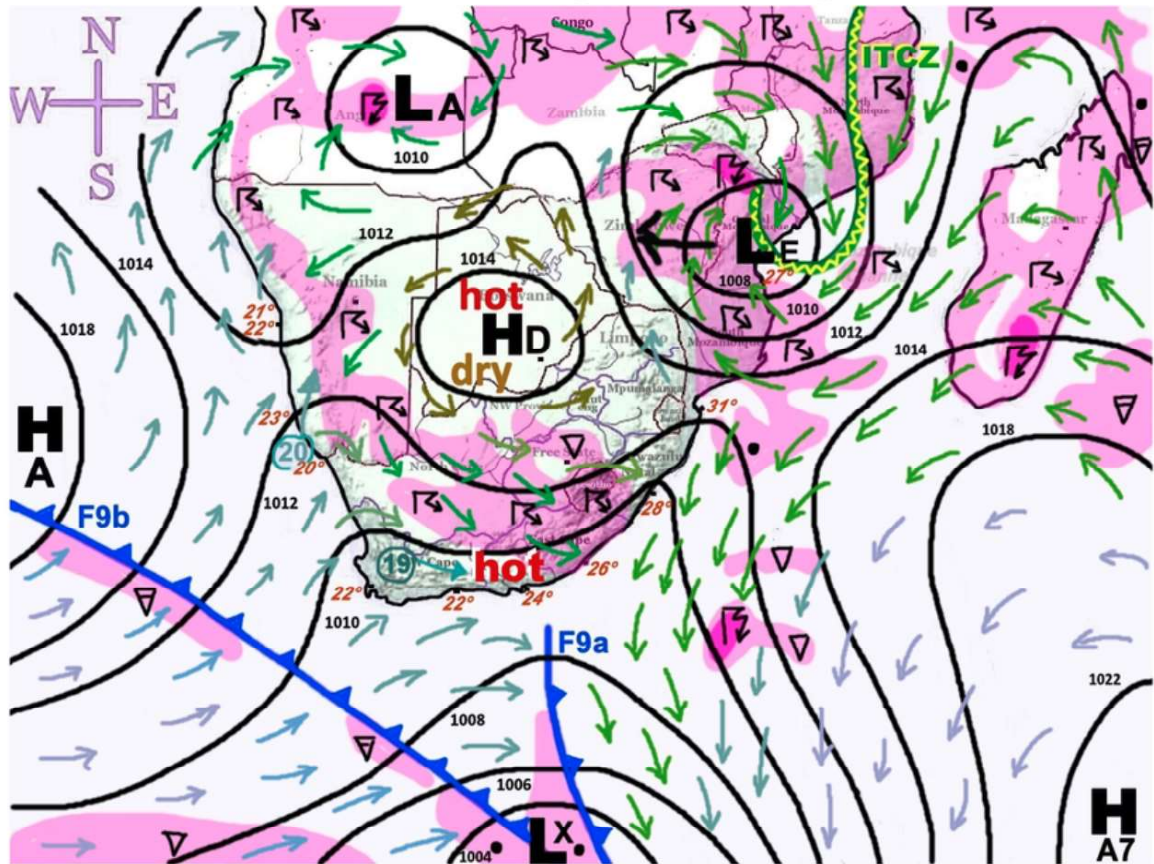
Reserve Parachute:

- Present, but not deployed

Meteorological Information

Weather conditions on February 8, 2025, were characterized as "pre-frontal" with the approach of a cold front later in the day.

Overview for Saturday 8 February 2025

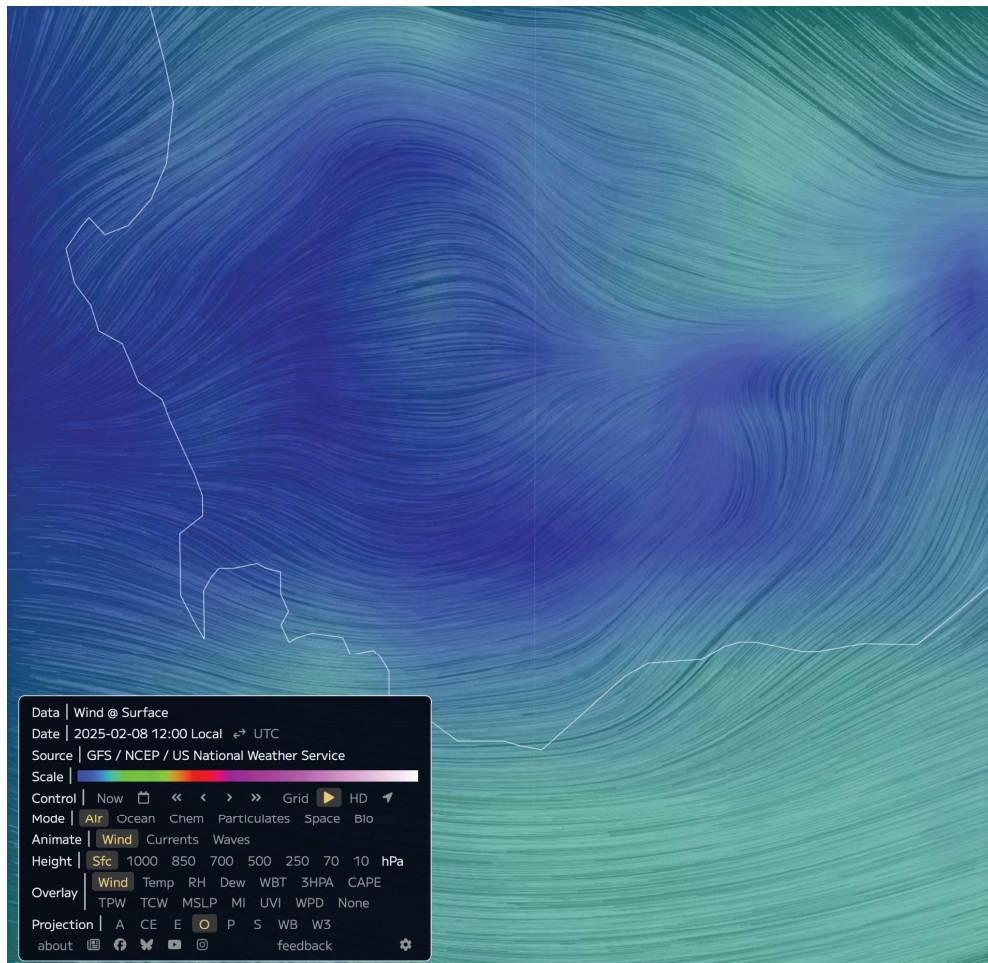


The low pressure system extending over the Cape from the mid latitude cyclone "LX" in the south will draw in moisture from the north-west to initiate thunder over **Free State, Central and North Cape, Eastern Cape, south KZN and Lesotho**. The low pressure will induce a hot berg wind over the **lower South Cape escarpment**.

"Front "F9b" will bring only a little low cloud to **south Cape** tomorrow.

Weather Overview by [Mike Berridge \(Patreon\)](#)

Macro wind & pressure systems on the day



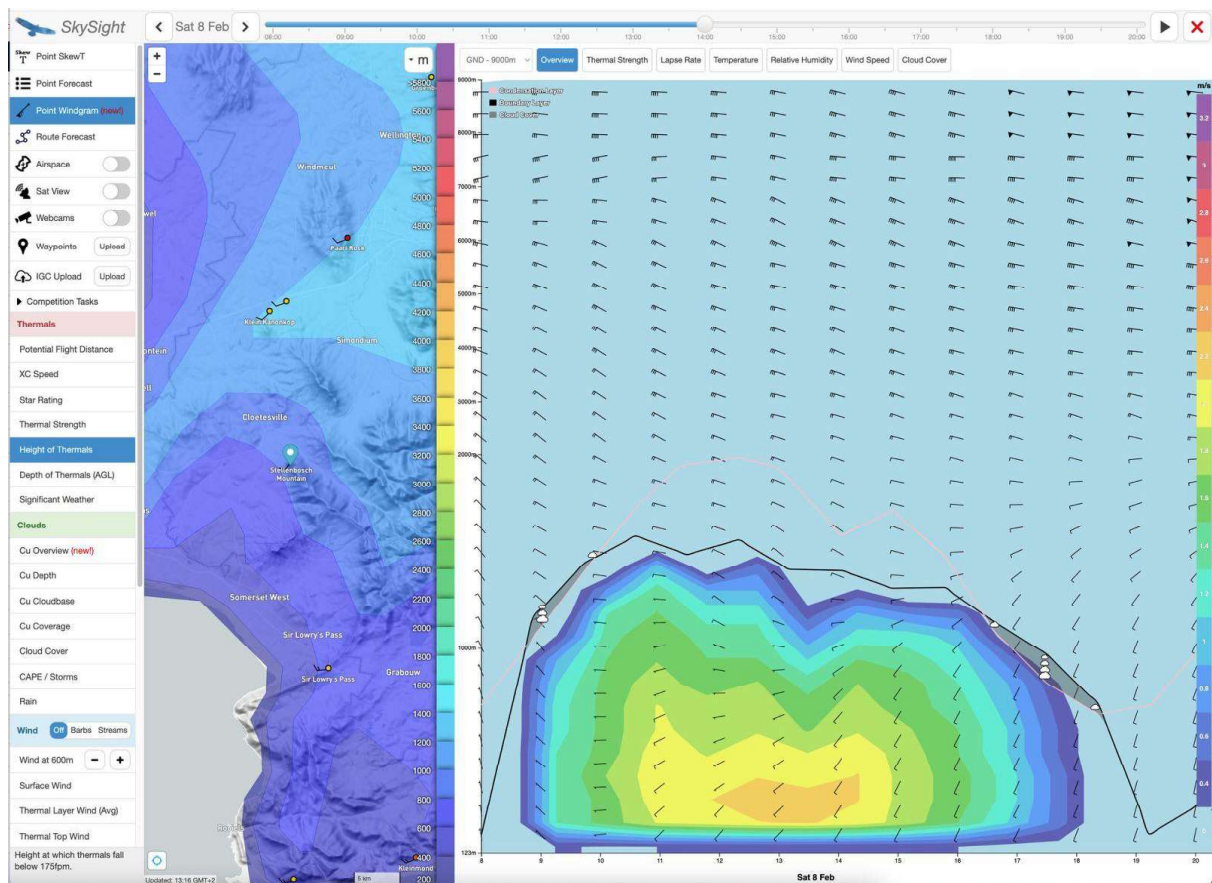
[This site](#) can be used to step through the macro wind on the day on an hourly basis. Note the acceleration as the front comes into play towards the afternoon.

Flying Conditions

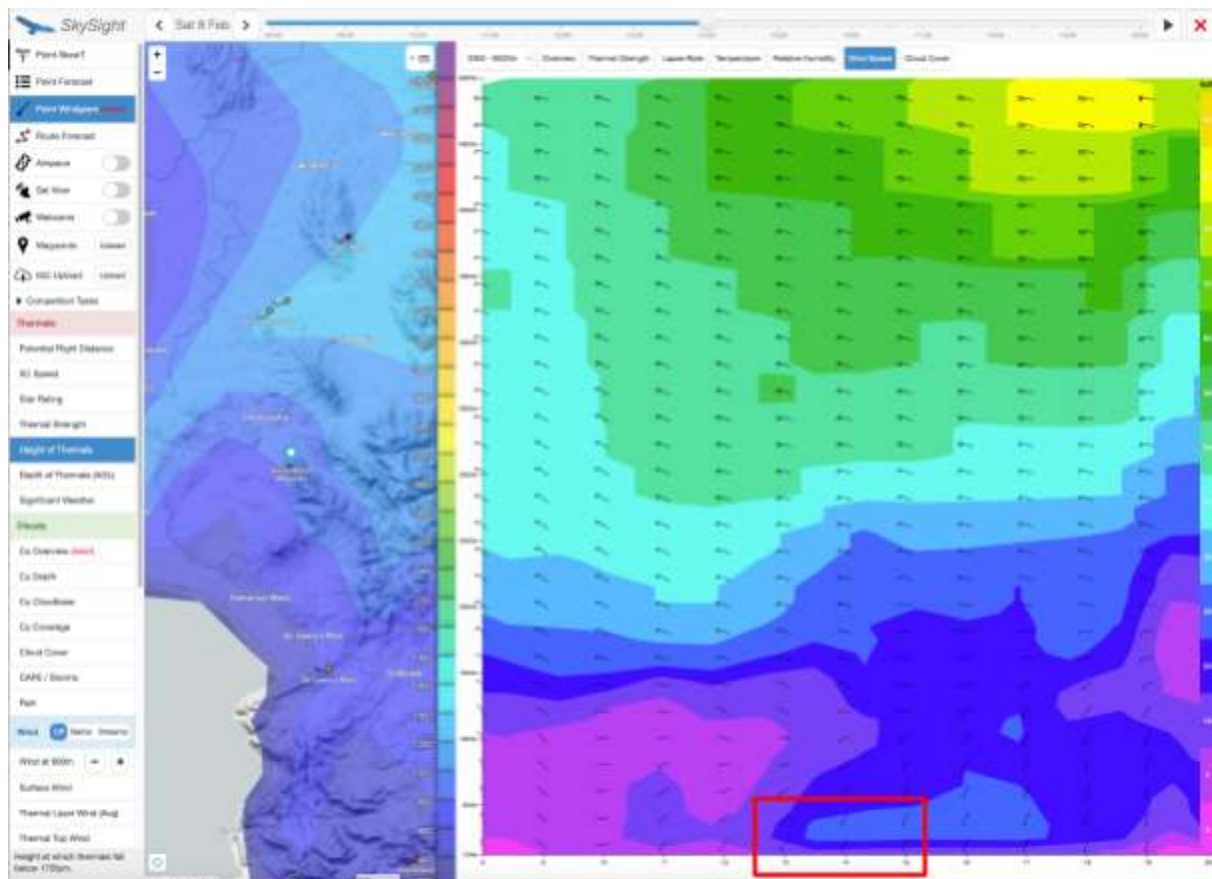
The Skysight forecast for the day indicated the following conditions in the “Point Windgram”:

- **Strong thermals** (~2.5m/s from 12:00 onwards)
- Ground wind SW. Moderate in the morning, but **picking up quickly just after 12:30**. *Weather forecasts have significant variance, especially in pre-frontal conditions. So wind picking up at 12:30 in the forecast can easily happen in reality an hour or more earlier.*

Overview Windgram, showing strong thermic activity for Saturday mid-day:



Wind Speed, showing significant increase in speed starting around 12:30/13:00:



Conditions report by a fellow pilot on the day (basic license pilot)

- We took off from the lower launch area (just above the zig-zag path)
- <The pilot involved in the accident> gave the site briefing to the ~10 pilots flying that day. He was seen by the group as the most knowledgeable about the site.
- I was the 3rd pilot that took off.
- There was virtually no wind on launch, I had to wait for a thermic cycle.
- The air felt unstable and rough, so I opted to head to landing quickly.
- Landing was turbulent, alternating between virtually nil wind and >35 kph (going backwards) conditions.

Conditions report by a second pilot on the day (basic license pilot)

I didn't notice any factors that indicated it wouldn't be a good day to fly.

What I found was I wasn't able to effectively turn into thermals. The benefit from my turning maneuvers was minimal compared to the heavy loss in altitude by the time the turn was completed. As a result, I had to rely mostly on ridge soaring, which wasn't my intended flying style for the day.

At the 2:56 mark in my video, I attempted to turn into a thermal but was pushed too far back to the mountain, resulting in a much wider circle and risk of hitting the terrain. Initially, I attributed this to poor turning skills, but I also see that my ground speed during that turn was 65 km/hr—well above my trim speed of about 30 km/hr. I suspect that the wind had picked up at that moment.

The rest of the flight, as I headed towards the tree line and for landing, felt normal. I did notice that the pilot who slope landed <note: this is not the pilot involved in the accident. This is referring to another pilot who successfully performed a slope landing near the accident site> seemed to have left it too late, but was somehow very determined to make it to the field.

My landing was comfortable but wind increased a few minutes after I touched down. I struggled to fold my gear in that wind, and it's not surprising that some of the landings that came after me ended up being backward landings.

Video of conditions (by pilot on the day)

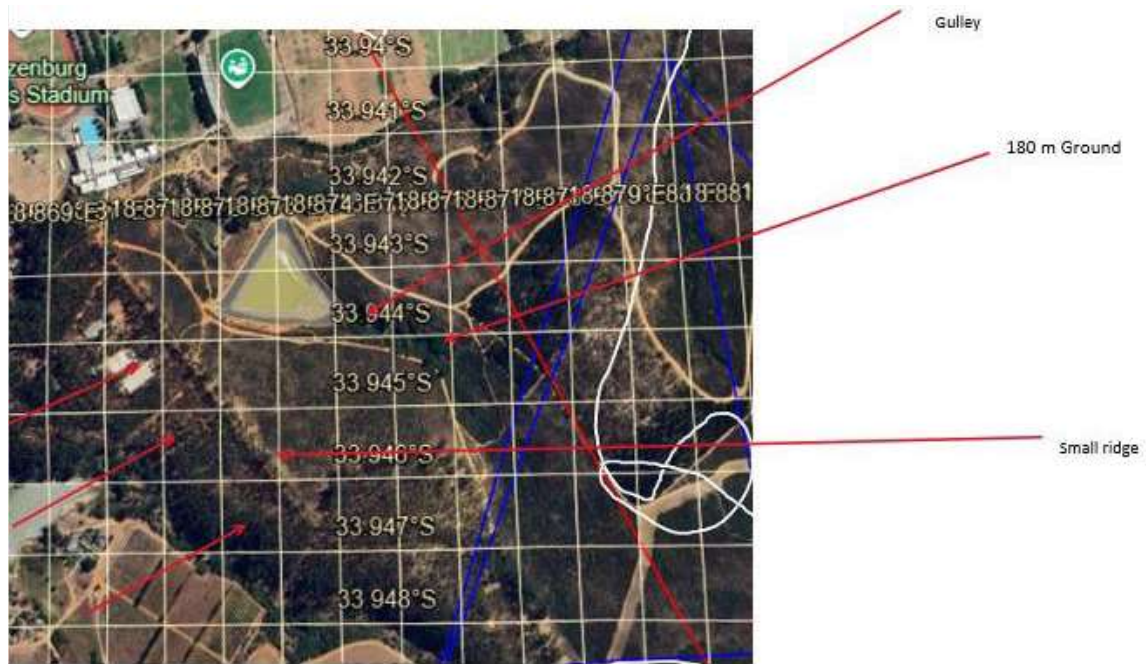
- Just above the lower launch, the wind was over 30km/h, judging by the ground speed [here](#):



-
- Another pilot encountered sink and had to slope land [here](#).

Conditions overview by an experienced pilot

This overview of the conditions was provided by an experienced Tandem Pilot and Grade C instructor.



[Map of the accident site]

The lapse rate profile on the day at 12:30 showed the following:

0-100m: -4.0 (very unstable)
100-300m: -3.5 (strongly unstable)
300-400m: -2.5 (less unstable)
400-600m: -3.5 (returns to strongly unstable)
~600-800m: -2.0 (moderately unstable)
~800-1000m: -1.5 to -1.0 (weakly unstable)

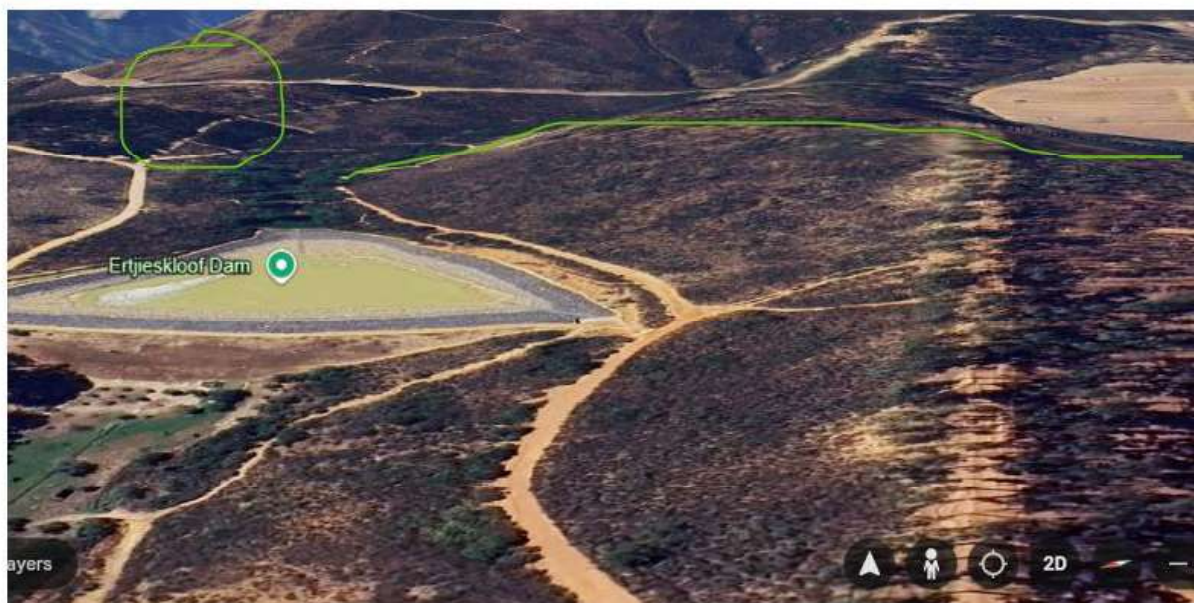
At midday, this profile suggests:

- Strong surface heating creating very unstable conditions in the first 100m (-4.0)
- A potential "transition zone" or slight inversion at 300-400m that thermals need to punch through
- Good thermal conditions again from 400-600m
- Gradually decreasing instability above 600m

For thermal flying, this suggests:

- Strong thermal triggers near the surface
- Possible "pause" or weakening of thermals around 300-400m until they build enough energy to break through
- Potentially good organized thermals once they break through to 400-600m

- Gradually weakening lift above 600m as the lapse rate becomes less favorable. Low to the ground it's going to be turbulent there. Wind will track up the gulley and some will wash over the small ridge from the SW. Big chance of the dam releasing the thermal for sure.



You can see how it accelerates to the right due to the southwest wind or a thermal. The height on the small hill is 40 meters higher than the trees. The flow accelerates because it looks like an airfoil profile from the dam's side. The lip of the dam wall also causes turbulence and release.

Site Analysis by Investigator

Wind shielding & lee-side thermals

I have flown Stellenbosch Mountain about a dozen times. I've flown from the lower site twice; once in NW conditions and once in SW conditions.

The rest I've flown from the upper cross (where the antennas are).

The challenge with the lower launch is that it's often shielded from the meteo wind by the mountain. As the wind wraps around the mountain, it effectively puts the lower launch site in the lee. *Based on pilots' reports provided, that was the case on the day of the accident. They felt almost no meteo wind at launch.*

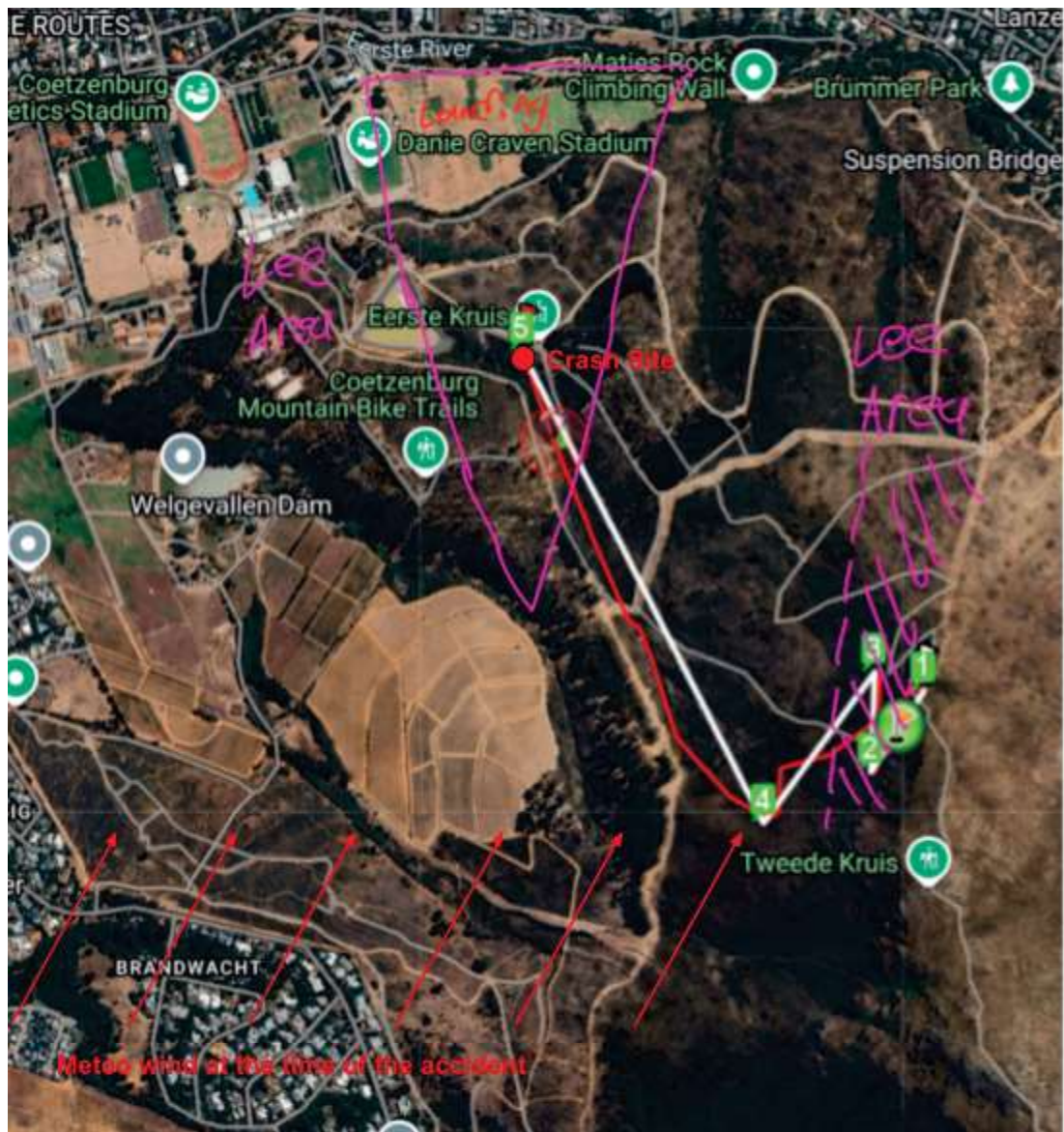
Furthermore, just below and to the S of the launch are significant areas of barren earth that heat up considerably. These heat sources are mostly shielded from the direct wind by trees and terrain so can heat up considerably. The water and trees can act like a trigger.

The result is strong lee side thermals at the lower launch, and N towards landing.

Coetzenburg landing field venturi & mechanical turbulence

The most convenient landing for Stellenbosch Mountain is the Coetzenburg fields. Ostensibly providing huge open grass fields for a seemingly safe landing.

Unfortunately in many conditions (especially SW wind) the macro terrain of the Stellenbosch & Jonkershoek mountains funnels the winds up the Jonkershoek valley and creates a strong venturi effect that wraps around Stellenbosch mountain. This wind generally starts mid-day and can pick up significantly during the afternoon, despite relatively mild meteo winds.



It washes wind *down* from the Coetzenburg dam area, over the trees high above the landing and over the very large Coetzenburg stadium building.

Equipment

Aids to Navigation

The pilot was using a mobile device running FlySkyHy, a paragliding-specific navigation application that generated the IGC tracklog recovered for analysis.

Communications

No radio communications were recorded. It is believed that the pilot was not carrying a radio at the time of the accident, and no radio was retrieved from the accident site.

Flight Recorders

The IGC tracklog from the pilot's mobile device was recovered and analyzed. The tracklog showed:

1. The pilot launched at approximately 12:14 local time.
2. During the initial phase of flight, the pilot ridge soared along Stellenbosch Mountain at altitudes between 400-500m ASL.
3. At approximately 12:19, the pilot began descending toward the landing zone.
4. Around 12:20 the tracklog shows a rapid loss of altitude from ~60m AGL to 0m AGL with a descent rate approaching (or possibly exceeding) 10m/s (36km/h).

The rapid descent rate in the final seconds (approximately 10 m/s) is consistent with a spiral dive or auto-rotation.

Wreckage and Impact Information

The paraglider came to rest on the western slope of Stellenbosch Mountain. Witnesses reported that the pilot impacted the ground at high speed. There were no obstacles such as trees or power lines involved in the impact sequence.

The wreckage pattern was consistent with a near-vertical, high-energy impact. The paraglider lines remained attached to the harness, and there were no signs of pre-impact failures of the harness or connection points.

The reserve parachute was outside of the harness, but still packed in its container and had not been deployed.

Witness Reports

Two pilots submitted witness reports to SAHPA and summaries are included in the appendix. Their key likely causes, as per the witnesses, are summarised below:

Likely Cause (Per Witness)

The pilot likely approached the landing zone **too low through a narrow valley** bordered by high trees, where **lee-side rotor and turbulence** were present. This probably caused one or more **collapses**, leading to a **spiral into terrain**. The glider was found laid out with tensioned lines, and a **reserve parachute deployment had been attempted**, evidenced by it being partially deployed beneath the pilot.

The pilot had reportedly not flown for ~6 weeks prior and had recently changed from a **low-B to a high-B glider**.

Possible Contributing Factors (Per Witness)

- Lee rotor
- Strong Wind
- Wind/Thermal

Report 2 summary:

Likely Cause (Per Witness)

The pilot likely encountered rotor-induced collapse close to terrain while flying low on approach. A reserve deployment attempt appears to have been made but too low for inflation before ground impact.

Possible Contributing Factors

- Lee rotor

Medical and Pathological Information

Cause of Death

Multiple blunt force injuries.

See appendix for details.

Organizational and Management Information

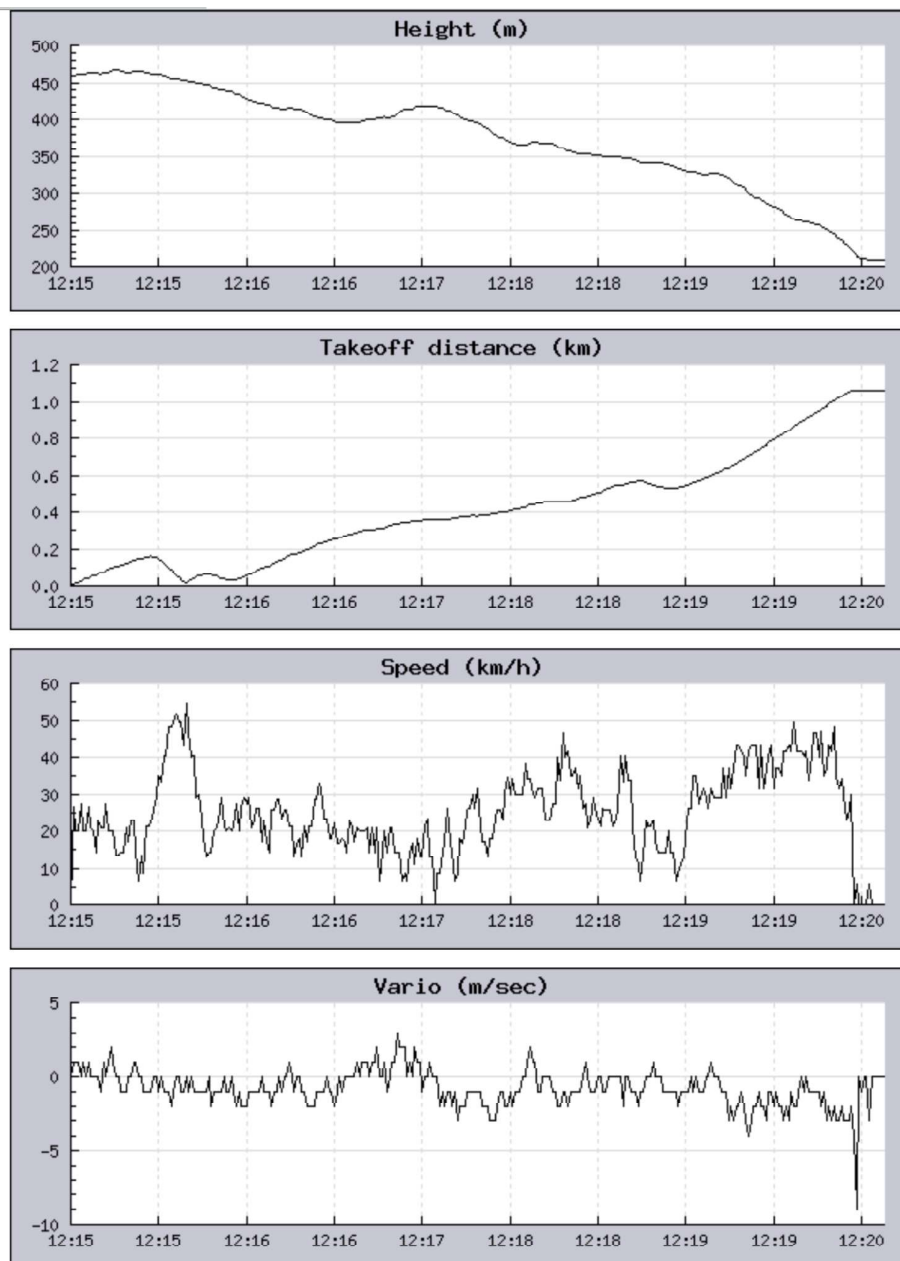
The pilot was a registered member of the South African Hang Gliding and Paragliding Association (SAHPA), which operates under the South African Civil Aviation Authority (SACAA) as an Aviation Recreation Organization (ARO).

The pilot's license was last renewed on 10 October 2023, with the following Renewal Checklist:

B. RENEWAL CHECKLIST:			
Current license(s)		Glider(s)	
(Copy of logbook(s) with a name and licence number detailed showing summary for the past year's flights must be attached)			
PG flights flown during past year	44	Total PG flights since commencing sport	81
PG hours flown during past year	8h40m	Total PG hours since commencing sport	15h14m

Flight Information

Vario readings of the flight



Note: The vario readings indicate a very significant descent rate (approaching 10m/s - 36 km/h vertical descent speed) immediately preceding the crash. This exceeds the typical descent rate of a stalled paraglider, and is in line with a paraglider in a deep spiral or auto-rotation configuration.

Video of the accident

A fellow pilot captured video footage of the accident from the edge of view of a 360° camera. The quality is limited, but it does provide important context to the accident.

Frame 1: approaching accident location

Time: 1s



Analysis: The glider is flying normally, the pilot is about to cross a gully towards a ridge line that could take the pilot to landing. Based on the tracklogs the glider is approximately 40-50m or less AGL. The pilot is encountering mild sink and descending at ~2m/s.

Frame 2: passing through green and moist gully

Time: 11s



Analysis: The pilot navigates across the small gully, encountering reducing sink (-1.3m/s). The gully has green, leafy vegetation and moist ground. This would create a significant thermal contrast with the dry, barren, vegetation on the sides of the gully.

Frame 3: Evidence of glider collapse on left hand side

Time: 12s



Analysis: It appears that the glider suffered a collapse on the left hand side. The glider starts rotating counter-clockwise, consistent with a left hand side collapse.

At this point the pilot is less than 40m AGL, based on the track logs.

Frame 4: Evidence of potential clockwise spiral initiation

Time: 16s



Analysis: After approximately 1 second, the right hand side of the glider appears deformed and the glider starts rapidly rotating clockwise.

This is most likely due either to:

1. Aggressive right-hand brake input by the pilot - initiating an inadvertent spiral <or>
2. A collapse on the right hand side leading to a cravat and causing the glider to go into auto-rotation

Frame 5: Glider seemingly in clockwise spiral

Time: 18s



Analysis: At this point the glider seems to be in a rapid spiral or auto-rotation descent.

Spiral descent vs Auto-rotation:

- Spiral descent: Characterised by a point of rotation above the glider, forming a spiral descent pattern.
- Auto-rotation: Characterised by a point of rotation between the pilot and the glider.

The descent duration is very short, before ground impact, making it difficult to analyse. It does appear that the point of rotation is “above” the paraglider, which would be consistent with a pilot induced spiral.

Further consistent with a spiral descent is the witness report by a fellow pilot; “*The positioning of both <pilot> and his glider at the crash site supports this conclusion as the glider was lying completely spread out with taught lines to the Harness.*”

Additional Information

Equipment Upgrade History

The pilot had a documented history of equipment upgrades:

1. Swing Discus (EN-A) - Initial training wing
2. Nova Ion 5 (EN-B) - Acquired around 2022
3. Air Design Rise 5 (high EN-B) - Acquired November/December 2024

Email correspondence indicates the pilot conducted research into various wing options before purchasing the Air Design Rise 5, including discussions with other pilots and dealers about performance characteristics and safety.

Pilot Weight Considerations

According to communications with other pilots, the pilot was flying at or near the top of the weight range for his paraglider (Air Design Rise 5 Medium: 85-105 kg). The pilot mentioned struggling to maintain total take-off weight below the maximum rated weight in early 2025 in a Whatsapp message.

Flying at the top of a glider's weight rating has the advantage of increasing collapse resistance, but the disadvantage of leading to more aggressive glider responses to collapses that do occur.

Note: Paraglider weight range standard is to include the weight of pilot and all equipment, including the paraglider itself, in the weight rating.

The pilot weighed 104kg, according to the medical report. The glider weight is 4.93kg. The harness, reserve and helmet was weighed at 5.2kg by WallendAir during the equipment inspection. So the total all-in weight of pilot and core equipment would have been at least 114kg. Clothing, shoes and other equipment like the mobile phone would have increased the weight further, typically another 1-3 kg. So the glider was being flown at least 10kg over the maximum rated weight of the glider.

This data was shared with the local AirDesign representative, who confirmed that given the loading, the glider was not being flown within the manufacturer's specifications. This excess weight would have increased the wing loading significantly and greatly increased the glider responsiveness and reaction to collapses. The EN-B rating of the glider is predicated on flying within the manufacturer specifications, the rating is not valid when flying outside of these specifications.

Pilot Incident History

Based on the pilots logbook, the pilot experienced a number of previous incidents and at least one serious accident resulting in a broken leg.

There were at least four previous flights at Coetzenburg that had some kind of incident:

- A flight on 4 Nov 2023 - The pilot had multiple failed launch attempts, getting dragged and bruising his hand.
- A flight on 29 December 2023 - The pilot underestimated the wind, suffered a very serious collapse immediately after take-off (losing 17m altitude).
- Two flights that the pilot noted as successful, but experienced multiple small or large collapses.

Notably a flight on 16 December 2024 where the pilot was flying the new AirDesign Rise 5 wing at Coetzenburg, and encountered many collapses. Given that the pilot would have been at or over the upper end of the weight range, encountering many collapses on a post-frontal day indicates lack of familiarity with the glider.

Pilot history of inadvertently inducing spirals

On 18 December 2024 the pilot had a Whatsapp conversation with a fellow pilot concerning their discomfort with spirals. Notably the pilot indicated that earlier in that week, while attempting a sharp 360 turn, they had inadvertently induced a strong spiral on the same glider that was involved in the accident.

“on Mon I also did a sharp 360, which very quickly turned into a strong spiral. That was scary and something I need a lot more practice in.” - Whatsapp message from the pilot

In the same conversation, the pilot also indicated a general discomfort with spirals and noted that they did not deliberately / consciously exit the inadvertently induced spiral:

[2024/12/18, 20:52:53] Other Pilot~: How did you come out?

<unrelated message>

[2024/12/18, 20:56:07] Pilot: Can't really tell... 🤔. It's definitely a maneuver that gets me disoriented quickly. Got to 2.4g.

Similar Accidents by other pilots

A review of previous accident reports revealed some common patterns:

1. From the 2019 Bulwer accident (fatal): A student pilot experienced a spin that progressed into a spiral, with insufficient height to recover. Contributing factors included excessive brake input and inadequate weight shift.
2. From the 2024 Piekenierskloof accident (fatal): A pilot experienced a collapse in turbulent conditions that resulted in a rapid descent. Contributing factors included changing wind conditions and equipment demands exceeding pilot experience.

ANALYSIS

Flight Operations

Decision to Fly

The pilot's decision to fly on February 8, 2025, was made during pre-frontal conditions with forecasted increasing winds. While the initial launch conditions appeared suitable with light winds, the weather forecasts indicated a significant change expected around midday.

Several other pilots were flying at the same location that day. However, witness statements indicate that multiple pilots experienced deteriorating conditions immediately preceding and around the time of the accident.

Flight Path Analysis



The IGC tracklog shows that the pilot was flying close to terrain at Stellenbosch Mountain.

This flight path may have placed him in an area prone to mechanical turbulence caused by the interaction of the increasing south/southwest wind with the mountain terrain. The Coetzenburg dam area and associated topography, when combined with the wind direction

at the time, would likely create a lee-side rotor effect in the area where the collapse occurred.

Environmental Factors

Weather Conditions

The pre-frontal conditions on February 8, 2025, created a complex and changing weather environment. Key factors included:

1. **Increasing Wind Speed:** The wind speed increased significantly from the morning to midday, with estimates suggesting an increase from 0-5 kph at launch time to 15-20 kph by the time of the accident. This increase in wind speed would have created stronger mechanical turbulence around terrain features.
2. **Strong Thermal Activity:** The lapse rate analysis indicated very unstable atmospheric conditions conducive to strong thermal development. These thermals, combined with the increasing wind, would create areas of significant turbulence, where thermal and mechanical air movements interact.

Mechanical Turbulence

The topography of Stellenbosch Mountain, particularly around the Coetzenburg dam area, creates conditions prone to mechanical turbulence and rotor formations in south/southwest wind conditions.

The pilot's position at the time of the collapse places him in an area where these mechanical turbulence factors would be most pronounced, especially with the increasing wind speeds reported that day.

Pilot height at time of accident

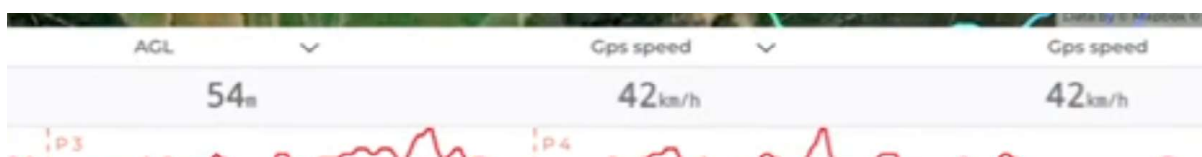
It is difficult to be very precise about the pilot's height above ground level immediately preceding the accident, due to a number of factors:

- Imprecise vario measurements
- Varying terrain elevation - *height above ground level is a factor of ASL (height above sea level) and height of terrain below the pilot at any given point.*

Based on the analysis of the tracklog using a number of applications and 3D perspectives of the terrain, it can be said with confidence that the pilot was less than 80m AGL immediately preceding the accident, and quite likely less than 50m AGL.



[Analysis using Sports Track Live showing 46m AGL immediately prior to accident]



[Analysis using SeeYou showing 54m AGL immediately prior to accident]

The pilot's low height above ground level (AGL) meant that there would be limited opportunity to respond to and safely correct paraglider disturbances from turbulence or to effectively deploy a reserve parachute. *The pilot impacted the ground approximately 8s after the first collapse, leaving very little time for a potential successful reserve deployment decision & execution.*

Equipment Factors

Paraglider Performance Characteristics

The Air Design Rise 5 is a high-B category paraglider with an aspect ratio of 5.85, which is at the upper end of the B class.

According to AirBubble - a reputable review site - the glider is a high-B *"best suited for pilots moving up from mid-B wings who are comfortable flying actively and handling a slightly firmer brake feel."*

Source: <https://flybubble.com/blog/airdesign-rise-5-and-soar-2-paragliders-review>

According to paragliding instructor & author Greg Hamerton, a pilot should have at least 50 hours of thermic flying experience (or 100 hours of ridge soaring) before thinking about upgrading to a high-B glider.

Source:

<https://xcmag.com/gear-guide/new-pilots-gear-guide/when-to-move-up-a-glider-class/>

The pilot's experience level (a total of 56 hours, and 28 hours in the 12 months immediately preceding the accident) falls at or below the recommended minimums for this glider class. Additionally, the pilot had only been flying this wing for 2-3 months, suggesting he was still in the familiarization phase with its handling characteristics.

Equipment Inspection Findings

The post-accident inspection revealed that the paraglider was in good technical condition before the accident. The minor trim variations noted would not have significantly affected the handling characteristics or contributed to the accident sequence.

The inspection found no evidence of equipment failure that would have initiated or contributed to the loss of control. The tears in the leading edge were assessed as consistent with impact damage rather than in-flight structural failure.

Reserve Parachute

The pilot's reserve parachute was found outside the harness pocket, but still packed in its container. This could indicate a failed reserve deployment, or simply the ejection of the reserve parachute due to the impact of the crash.

Given the rapid onset of the collapse and spiral, and the relatively low altitude at which it occurred, there would most likely have been insufficient time for the pilot to recognize the situation, reach for the reserve handle, deploy the parachute, and for it to fully inflate before impact.

Human Factors

Experience and Currency

The pilot's total experience of approximately 160 flights and 57 hours, accrued over several years, places him at the intermediate level in terms of total hours. However, his currency and recency of experience were limited, with inconsistent flying patterns and several months with no flying activity.

Previous incidents noted by the pilot at the Coetzenburg site point to a lack of experience resulting in mis-judging the complex conditions often prevalent at the site, and/or a lack of sufficient experience piloting in thermic air.

Equipment Progression

The pilot's progression from an EN-A wing (Swing Discus) to a mid-level EN-B wing (Nova Ion) and finally to a high-end EN-B wing (Air Design Rise 5) represents a significant increase in performance and handling demands.

Email correspondence indicates the pilot was aware of the performance characteristics of the new wing and had researched his options. However, the wing's higher aspect ratio and more dynamic handling compared to his previous gliders would require a period of adaptation that his limited flying frequency may not have adequately provided.

This progression occurred while the pilot maintained a relatively low flying frequency. The most recent upgrade to the Rise 5 had occurred only 2-3 months before the accident, providing limited time to become fully familiar with the wing's behavior, particularly in turbulent conditions.

Whatsapp correspondence noting the pilot having inadvertently induced a spiral on this glider on a flight prior to the accident, and confusion on exiting the spiral, is indicative of lack of familiarity with the glider.

Pilot Response

The rapid progression from collapse to spiral suggests a cascading loss of control that would be challenging for a pilot, with limited recent experience, to recover from, especially on a more demanding wing.

Without SIV (Safety in Flight) training, the pilot may not have developed the automatic responses needed to quickly and effectively recover from a sudden collapse, particularly when close to terrain with limited time available.

CONCLUSIONS

Findings

1. The pilot held a valid Basic Paragliding License and was legally qualified to fly the paraglider.
2. The paraglider was in airworthy condition with no pre-existing defects that would have contributed to the accident.
3. The pilot had acquired the Air Design Rise 5 approximately 2-3 months before the accident, representing a significant upgrade in performance from his previous wings.
4. The pilot was flying the glider above its maximum rated weight.
5. Weather conditions at the time of the accident were characterized by increasing wind speeds, associated with pre-frontal conditions and strong thermal activity.
6. The pilot was flying in an area prone to mechanical turbulence and rotor effects, particularly with the south/southwest wind direction present at the time.
7. The pilot experienced a sudden collapse of his paraglider, which developed into an unrecoverable spiral at an altitude insufficient for recovery or reserve deployment.
8. The pilot had limited recent flying experience (below 30 hours in the previous 12 months) despite flying a high-B rated paraglider.
9. The pilot had not undertaken formal SIV (Safety in Flight) training, which would have provided experience in collapse recovery techniques.

10. The accident resulted in fatal injuries due to high-energy impact with terrain.

Probable Cause

The probable direct cause of this accident was a loss of control following an asymmetric collapse likely induced by turbulent air conditions, which progressed into a rapid spiral descent at an altitude insufficient for recovery or reserve parachute deployment.

Contributing Factors

1. Pre-frontal weather conditions with increasing wind strength and thermal activity creating turbulent flying conditions.
2. Mechanical turbulence and rotor effects from the interaction of the south/southwest wind with the local terrain features.
3. Operating above the manufacturer's maximum weight rating of the glider.
4. The pilot's limited total and recent flying experience relative to the demands of the high-B class paraglider he was operating.
5. The relatively recent upgrade to a more demanding wing, providing limited time for the pilot to become fully familiar with its behavior in turbulent conditions.
6. The lack of formal SIV training, which would have provided practical experience in managing collapses and unusual flight attitudes.

SAFETY RECOMMENDATIONS

To SAHPA

1. **Recommendation:** Develop and implement enhanced guidance for pilots on equipment progression, with specific emphasis on the importance of matching wing class to current flying frequency and experience. This guidance should include recommended minimums for flying hours and currency before progressing to higher-performance wings.
2. **Recommendation:** Develop and implement enhanced guidance for pilots on paraglider weight ratings and the impact of operating a paraglider outside of its rated weight range.
3. **Recommendation:** Enhance education efforts regarding site-specific weather hazards at popular informal flying sites.

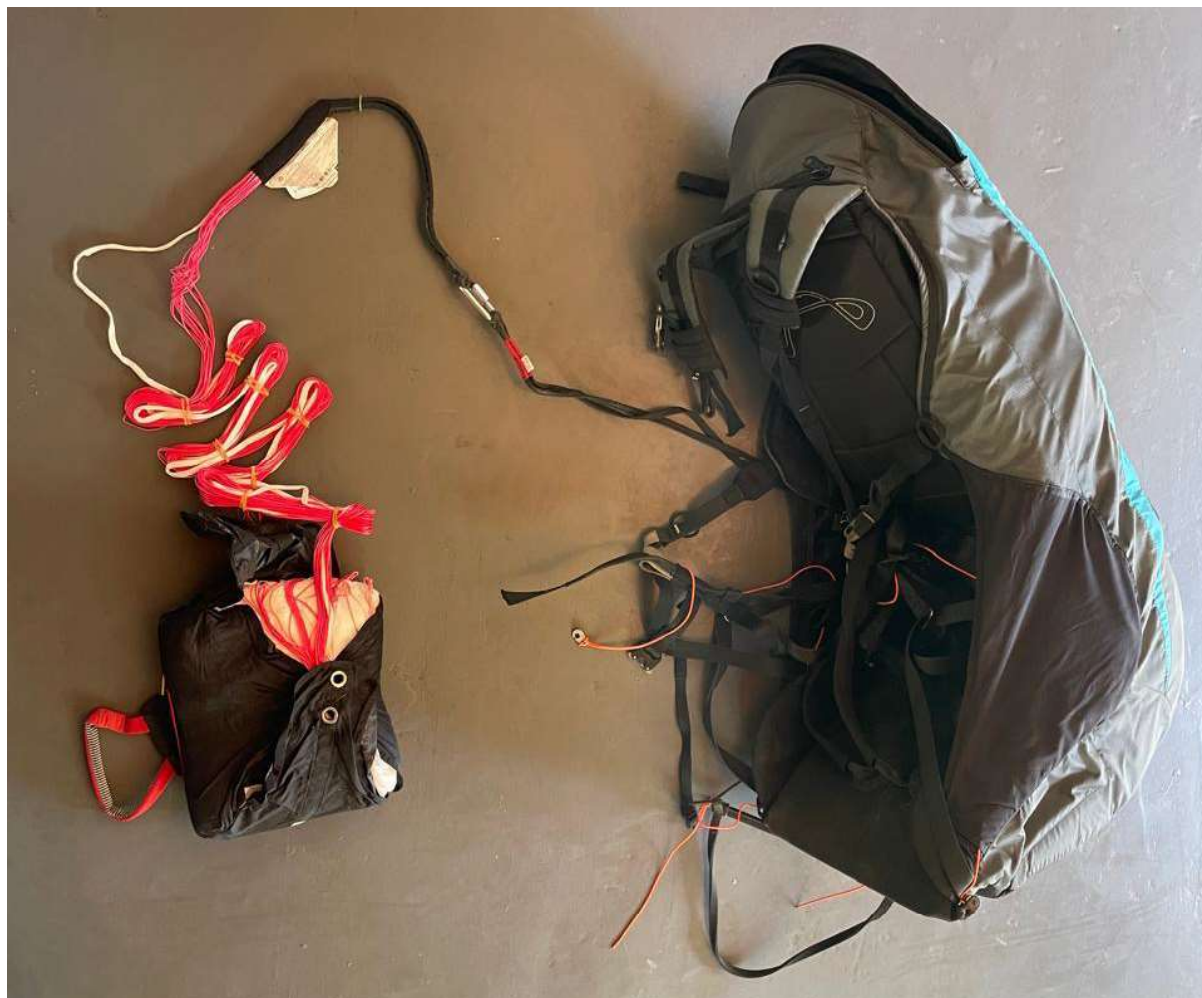
To Pilots

1. **Recommendation:** Undertake formal SIV training before progressing to higher-performance wing classes, particularly when moving to high-B class wings or above. This training should include spiral entry and exit as well as auto-rotation induction and controlled exit.
2. **Recommendation:** Pre-commit to personal minimums for AGL clearance, factoring in thermic conditions and risks of mechanical turbulence. Be disciplined about abandoning the search for lift and head to a safe landing at a safe altitude if these personal AGL clearance minimums cannot be maintained.
3. **Recommendation:** Pre-commit to personal maximums for forecasted surface wind speeds around the planned time of a flight. Adjust these maximums based on terrain and thermic activity. Avoid being in the air when there is a risk of surface winds exceeding your personal maximums.
4. **Recommendation:** Maintain a conservative approach to flying in challenging weather conditions, particularly when flying relatively new equipment or when lacking recent flying experience.
5. **Recommendation:** Establish personal minimums for currency and regularity of flying that align with the demands of the equipment being flown, considering the manufacturer and testing organization recommendations.
6. **Recommendation:** Document flying experience regularly and critically assess personal skills and currency before deciding to fly in challenging conditions or when considering equipment upgrades.
7. **Recommendation:** Respect glider weight ratings, ensure sufficient buffer (on the top and bottom of the range) to accommodate natural fluctuations in body weight and equipment weight. Regularly use an accurate scale to weigh yourself & all your flying equipment together to ensure you are flying within manufacturer ratings. Consider use of a ballast as needed to manage optimal wing loading given pilot weight and conditions expected during flight.

APPENDIX

Retrieved Equipment

Harness & reserve

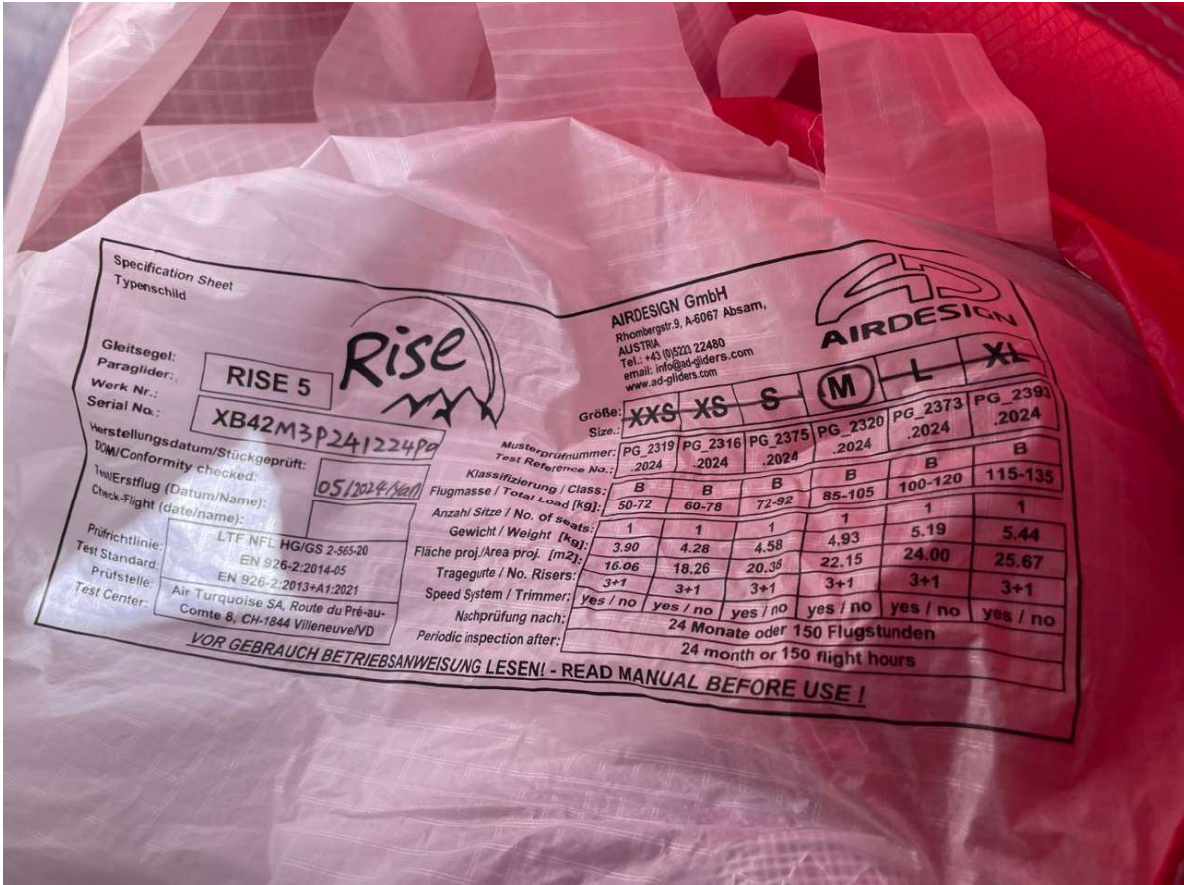


Note: Reserve out of harness pocket, but still in container and undeployed.

Paraglider



Paraglider specifications



Medical and Pathological Information

Cause of Death

Multiple blunt force injuries.

Autopsy Details

Case Reference: WC11/0470/2025

Date Death Certified: February 9, 2025 at 14:46

Autopsy Examination: February 11, 2025 at 07:00

Pathologist: Dr. Laura Dawn Taylor, MBChB(UCT), DipForMed(SA)Path, MMed Path(Foren), FCFForPath(SA)

Deceased Demographics

- **Age:** 53 years
- **Gender:** Male
- **Mass:** 104 kg
- **Height:** 190 cm

Fatal Injury Pattern

The post-mortem examination revealed a constellation of fatal injuries.

Investigator Interpretation: This is consistent with this investigation's finding of a high-speed impact with terrain.

1. Thoracic Trauma (Chest Injuries)

The thoracic injuries were among the most severe and included:

- **Complete sternal fracture** at the level of the 3rd rib
- **Transection of both internal mammary arteries** (major blood vessels)
- **Multiple bilateral anterior rib fractures** creating flail chest segments
- **Hemothorax:** 1000ml of blood accumulation in the right chest cavity
- **Anterior pericardial hemorrhage** (bleeding around the heart)
- **Contusion to the anterior right ventricle** of the heart

2. Pelvic Trauma

- **Gaping open book pelvic fracture:** A severe injury pattern where the pelvic ring is disrupted
- **Large retroperitoneal hemorrhage:** Significant bleeding in the space behind the abdominal cavity

3. Abdominal Trauma

- Perforations to the transverse and descending colon
- Multiple small bowel mesentery lacerations with hemorrhage
- Duodenal hemorrhage
- 100ml of blood in the peritoneal cavity

4. Cranial Trauma (Head Injuries)

- **Linear fracture in the right middle cranial fossa** (skull base)
- **Right parietal subarachnoid hemorrhage** (bleeding on the brain surface)
- **No brain swelling** was noted

Evidence of Medical Intervention

The autopsy documented extensive evidence of emergency medical treatment attempts:

- Endotracheal tube (size 8.0) for airway management
- Orogastric tube
- Central venous line in the right subclavian vein
- 12 ECG monitoring stickers
- Defibrillator pads with underlying burn on sternal pad
- Arterial line in the left brachial artery
- Hospital identification bracelets on both wrists
- A split and bandage around the right lower leg

Toxicology Results

Blood toxicology analysis detected:

- Paracetamol (acetaminophen)
- Ketamine
- Morphine

Interpretation: All detected substances are consistent with emergency medical treatment and pain management administered during resuscitation efforts.

Investigator interpretation: No evidence of alcohol, illicit drugs, or impairing medications that could have contributed to the accident was identified.

Cause of Death

Cause of death was ruled to be: **Multiple blunt force injuries.** This is consistent with the investigation's findings of a high-energy impact with terrain at significant velocity.

Conclusion

The combination of massive hemorrhage from multiple major vessel injuries, critical organ damage to the heart and lungs, severe pelvic disruption, and multi-system trauma created an unsurvivable injury pattern. The impact forces involved exceeded the physiological limits of human survival, and it is unlikely that any reasonable emergency medical intervention could have altered the outcome.

Witness Reports

Two pilots submitted witness reports to SAHPA. Their key points are summarised below

Report 1 summary:

A group of approximately ten pilots hiked to the **Stellenbosch Mountain South-West launch** on **8 February 2025**. Weather was clear with 2-4m/s thermals, indicating a thermic rather than ridge-soaring day. Multiple pilots launched successfully, though conditions were turbulent near the mountainside.

The last pilot <the pilot involved in the accident> to launch experienced repeated difficulties getting airborne, but eventually took off. Shortly before the accident, a pilot at the landing area transmitted a **radio warning** that ground-level turbulence and wind strength had increased significantly.

While many pilots moved into smoother air and climbed to around **1000m**, the last pilot remained lower and was later reported to have gone down near **Eerste Kruis** at 12:21. Radio calls were made instructing the downed pilot to secure the wing, but there was no visible movement. Pilots in the air observed someone on foot approaching the crash site, and due to worsening turbulence, two pilots landed immediately—one performing a **backwards landing** due to strong gusts.

On landing, pilots packed gear and received confirmation that contact had been made with the downed pilot—he was conscious but disoriented. A ER24 paramedic reached the site first, reportedly notified by another individual on scene. Emergency services were contacted again at **12:34**, and an ambulance arrived roughly **30 minutes later**.

The injured pilot was found with a **severe right ankle fracture**, **breathing difficulty**, suspected **broken ribs**, and a **possible punctured lung**. A chest drain was inserted for breathing support. The pilot was responsive via thumb movement, stabilised, carried from the gully, and transported to **Stellenbosch Mediclinic**.

Likely Cause (Per Witness)

The pilot likely approached the landing zone **too low through a narrow valley** bordered by high trees, where **lee-side rotor and turbulence** were present. This probably caused one or more **collapses**, leading to a **spiral into terrain**. The glider was found laid out with tensioned lines, and a **reserve parachute deployment had been attempted**, evidenced by it being partially deployed beneath the pilot.

The pilot had reportedly not flown for ~6 weeks prior and had recently changed from a **low-B to a high-B glider**.

Possible Contributing Factors (Per Witness)

- Lee rotor
- Strong Wind
- Wind/Thermal

Report 2 summary:

A group of ~10 pilots were flying the Stellenbosch area when the last pilot <the pilot involved in the accident> launched at approximately 12:10, after assisting several others with their takeoffs. The reporting pilot was at roughly 500 AGL for most of the flight and did not observe the full early portion of the <pilot involved in the accident's> flight.

At 12:18, the reporting pilot left the ridge to head toward the sports fields for landing and observed that <the pilot involved in the accident> was flying low and “scratching” for lift. then appeared to commit to landing but continued on a low approach path. At approximately 12:21, while the reporting pilot was at 250 AGL over the landing field, <the pilot involved in the accident> was observed impacting the ground in low bushes approximately 30m from a mountain road.

The reporting pilot observed that the glider appeared to be on the same horizontal plane as <the pilot involved in the accident> - i.e. the glider in front of the pilot.

Ground witnesses ran to the crash site immediately. Attempts to contact the downed pilot by radio were unsuccessful. The reporting pilot landed (noting strong landing conditions), packed up, and walked to the crash location. En-route, hikers confirmed that paramedics had already been contacted. On arrival, <the pilot involved in the accident> was lying on their back, in significant pain but responsive. The reporting witness observed a clearly broken ankle with possible rib injuries.

The glider was found with lines fully tensioned to the wing, indicating no tangle or post-impact movement. The reserve parachute was still in its pouch but out of the harness beneath the pilot, suggesting deployment was initiated at very low altitude. Ground witnesses reported seeing the pilot reach toward the harness approximately four seconds before impact, and that moments earlier both sides of the wing appeared to collapse.

Likely Cause (Per Witness)

The pilot likely encountered rotor-induced collapse close to terrain while flying low on approach. A reserve deployment attempt appears to have been made but too low for inflation before ground impact.

Possible Contributing Factors

- Lee rotor