

**LIMITED OCCURRENCE INVESTIGATION REPORT – FINAL**

<b>Reference Number</b>	CA18/2/3/10496						
<b>Classification</b>	Accident	<b>Date</b>	16 September 2024	<b>Time</b>	1400Z		
<b>Type of Operation</b>	Helicopter Aerial Work (Part 128)						
<b>Location</b>							
Place of Departure	Sterkfontein Farm near Petrusburg, Free State Province		Place of Intended Landing	Sterkfontein Farm near Petrusburg, Free State Province			
Place of Occurrence	Sterkfontein Farm near Petrusburg, Free State Province						
GPS Co-ordinates	Latitude	29°03'08.96" S	Longitude	025°04'37.15" E	Elevation	3 821 feet	
<b>Aircraft Information</b>							
Registration	ZS-RWU						
Make; Model; S/N	Robinson Helicopter Company; R22 Beta II (Serial number: 3846)						
Damage to Aircraft	Substantial		Total Aircraft Hours	3 553.5			
<b>Pilot-in-command</b>							
Licence Type	Commercial Pilot Licence		Gender	Male		Age	51
Licence Valid	Yes	Total Hours	4 849.3		Total Hours on Type	4 849.3	
Total Hours Past 30 Days	24.0		Total Hours on Type Past 90 Days	61.6			
<b>People On-board</b>	1 + 0	<b>Injuries</b>	0	<b>Fatalities</b>	0	<b>Other (on ground)</b>	0
<b>What Happened</b>							
<p>On Monday afternoon, 16 September 2024, a pilot on-board a Robinson R22 helicopter with registration ZS-RWU was engaged in a game capture operation at Sterkfontein Farm near Petrusburg in the Free State province. The flight was conducted under visual meteorological conditions (VMC) by day and under the provisions of Part 128 of the Civil Aviation Regulations (CAR) 2011 as amended.</p> <p>The pilot stated that he was capturing ostriches. As he was herding them towards the boma whilst manoeuvring the helicopter to prevent them from exiting it, the left front section of the skid gear caught the upper boma cable, which was approximately 3 metres above ground. The pilot did not realise when the front left skid hooked the cable; as he pulled power (increase collective pitch) the helicopter rolled over to the right. The helicopter sustained substantial damage. No person was injured.</p> <p>The pilot stated that he did not take any photographs on site before the recovery of the helicopter, therefore, all photographs supplied in the report were taken post-recovery.</p> <p>The accident occurred during daylight at Global Positioning System (GPS) co-ordinates determined to be 29°03'08.96" South 025°04'37.15" East, at an elevation of 3 821 feet (ft).</p>							



**Figure 1:** The helicopter came to rest at the indicated yellow pin. (Source: Google Earth)



**Figure 2:** The helicopter rolled on to its right side during the accident. (Source: Pilot)



**Figure 3:** The left side of the helicopter. (Source: Pilot)

### Metrological Information

The weather information in the table below was obtained from the pilot questionnaire.

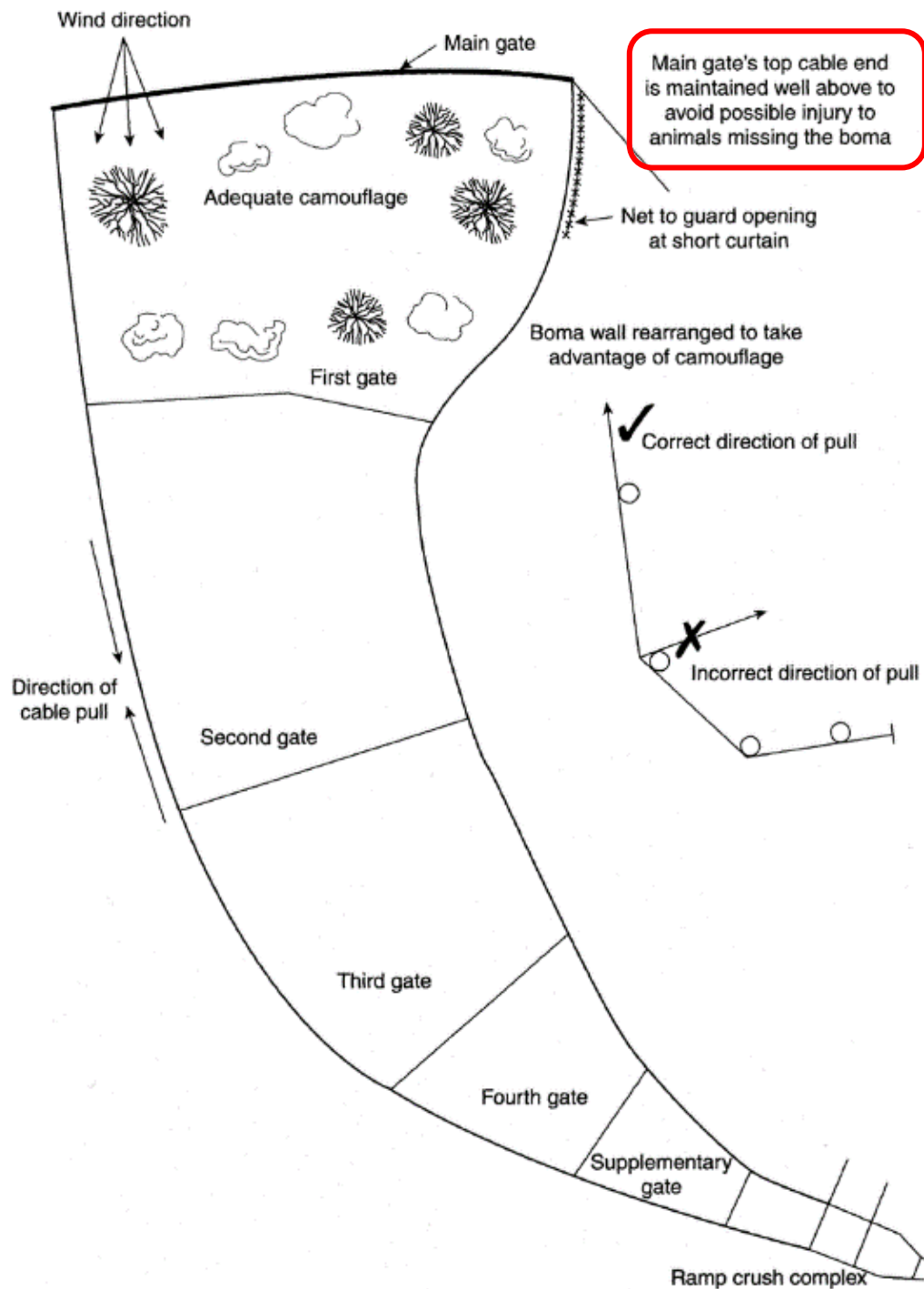
Wind Direction	220°C	Wind Speed	8 knots	Visibility	9999 m
Temperature	28°C	Cloud Cover	CAVOK	Cloud Base	Nil
Dew Point	Unknown	QNH	1016hPa		

The meteorological aerodrome report (METAR) was obtained from the South African Weather Service (SAWS) website, issued for Kimberley Aerodrome (FAKM) which is the closest weather station to the accident site. FAKM is 22 nautical miles north-west of the accident site.

FAKM 161400Z 14004KT CAVOK 28/// Q1016=

Wind Direction	140°	Wind Speed	4 knots	Visibility	9999 m
Temperature	28°C	Cloud Cover	CAVOK	Cloud Base	Nil
Dew Point	Unknown	QNH	1016hPa		

Game Capture Boma (Source: [https://www.researchgate.net/figure/Setting-up-a-plastic-boma-for-game-capture-Le-Grange-2006\\_fig1\\_45635341](https://www.researchgate.net/figure/Setting-up-a-plastic-boma-for-game-capture-Le-Grange-2006_fig1_45635341))



**Figure 4:** The layout of a typical game capture boma.

## Findings

### 1. Personnel Information

- 1.1 The pilot had a Commercial Pilot Licence (CPL) that was initially issued by the Regulator (SACAA) on 1 April 2010. The CPL was reissued on 23 November 2022 with an expiry date of 28 February 2025. The pilot had flown a total of 4 849.3 hours on the helicopter type.
- 1.2 The pilot was issued a Class 1 aviation medical certificate on 5 February 2024 with an expiry date of 28 February 2025.
- 1.3 The pilot had a Cull rating endorsed on his licence.

### 2. Aircraft Information

- 2.1 The last maintenance inspection of the helicopter before the accident flight was certified on 14 July 2024 at 3 512.3 airframe hours. The helicopter accrued 41.2 hours since the said maintenance inspection.
- 2.2 The helicopter had a valid Certificate of Airworthiness (C of A) that was initially issued on 16 March 2015. The latest C of A had an expiry date of 20 April 2025.
- 2.3 The helicopter's Certificate of Registration (C of R) was issued to the present owner on 24 November 2014.
- 2.4 The helicopter was issued a Certificate of Release to Service (CRS) on 15 July 2024 with an expiry date of 14 July 2025 or at 3 612.3 airframe hours, whichever occurs first.

### 3. Air Operating Certificate (AOC)

- 3.1 This was a commercial flight. The operator had a valid AOC that was issued by the Regulator on 31 December 2023 with an expiry date of 31 December 2024.

## Probable Cause

The left front skid gear hooked the upper boma cable whilst the pilot manoeuvred the helicopter to direct gate towards the boma. As he applied power (increase collective pitch) the helicopter rolled over to the right and crashed.

<b>Contributing Factor</b>
The pilot lost situational awareness whilst manoeuvring the helicopter near the boma because he had focused his attention on the outside surroundings as he monitored the animals to be captured.
<b>Safety Action</b>
None.
<b>Safety Message and/or Safety Recommendation/s</b>
None.
<b>About this Report</b>
<p><i>The decision to conduct a limited investigation is based on factors including whether the cause is known and the evidence supporting the cause is clear, the level of safety benefit likely to be obtained from an investigation, and that will determine the scope of an investigation. For this occurrence, a limited investigation has been conducted, and the Accident and Incident Investigations Division (AIID) has relied on the information submitted by the affected person/s and organisation/s to compile this limited report. The report has been compiled using information supplied in the initial notification, as well as from follow-up desktop inquiries to bring awareness of potential safety issues to the industry in respect of this occurrence, as well as possible safety action/s that the industry might want to consider in preventing a recurrence of a similar occurrence.</i></p> <p><i>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.</i></p>
<b>Purpose</b>
<i>In terms of Regulation 12.03.1 of the Civil Aviation Regulations (CAR) 2011 and ICAO Annex 13, 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.</i>
<b>Disclaimer</b>
<i>This report is produced without prejudice to the rights of the AIID, which are reserved.</i>

**This report is issued by:  
Accident and Incident Investigations Division  
South African Civil Aviation Authority  
Republic of South Africa**