



**Australian Government**

**Australian Transport Safety Bureau**

# Collision with terrain involving Robinson Helicopter R22 Beta, VH-PSC

29 km south-east of Limbunya Station, Northern Territory, on 27 June 2023



**ATSB Transport Safety Report**  
Aviation Occurrence Investigation  
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**Cover photo:** VH-PSC - supplied by operator

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#### Addendum

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# Preliminary report

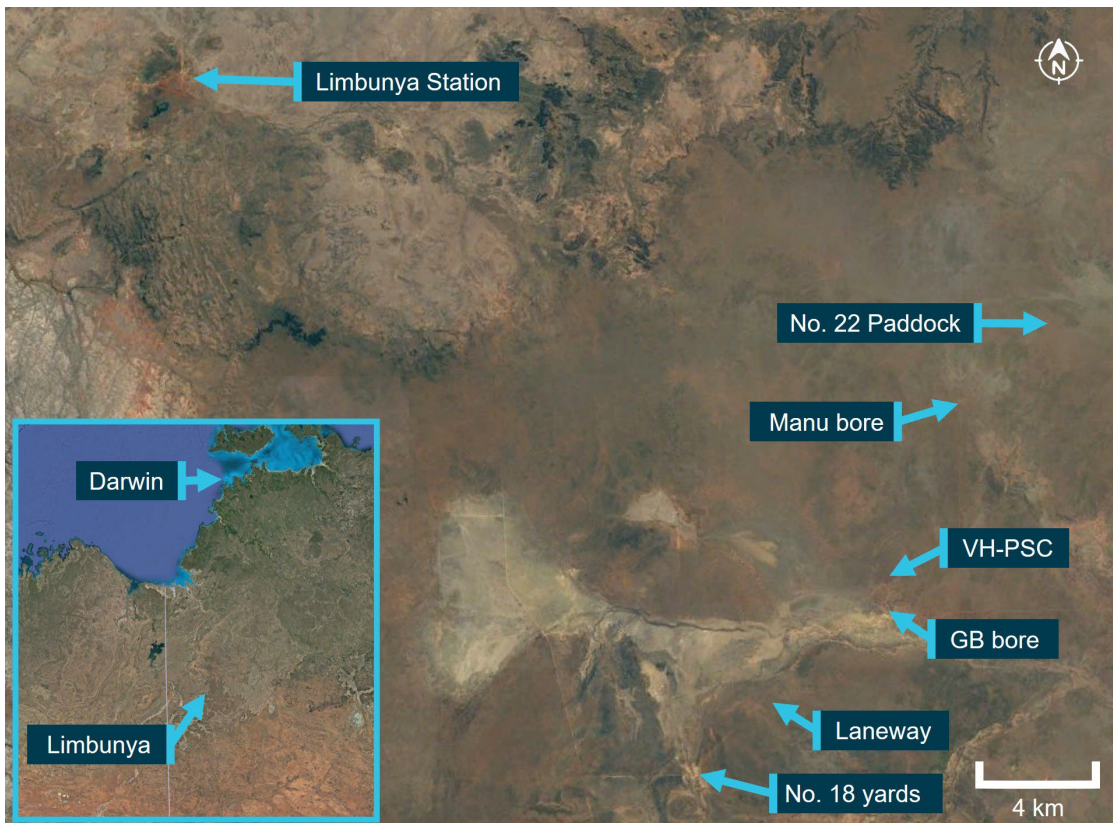
This preliminary report details factual information established in the investigation’s early evidence collection phase and has been prepared to provide timely information to the industry and public. Preliminary reports contain no analysis or findings, which will be detailed in the investigation’s final report. The information contained in this preliminary report is released in accordance with section 26 of the *Transport Safety Investigation Act 2003*.

## The occurrence

On 27 June 2023, at about 0700 local time, the pilot of a Robinson Helicopter R22 Beta, registered VH-PSC (PSC), departed Limbunya Station, Northern Territory, in company with a second R22 registered VH-RCS (RCS). Their task was to muster stock in a small paddock to the north of GB bore, about 29 km to the south-east of the station homestead. In addition, they were to assist the ground mustering party to move stock that had been mustered from ‘No. 22’ paddock into the GB bore holding yards the previous day, to the ‘No. 18’ yards (Figure 1).

The helicopters arrived at the northern end of the paddock at about 0730 and began pushing cattle south towards the GB bore holding yards. The pilot of PSC then supported the ground mustering party in moving stock from the yards into a fenced laneway. The laneway would guide the stock to the No. 18 holding yards, that were located about 8 km to the south-west.

**Figure 1: Limbunya Station and operational area**



Source: Google Earth, annotated by the ATSB

At about 0915, when the cattle were moving along the laneway under the control of the ground mustering party, the pilot of PSC was released from that task, and returned to assist the pilot of RSC with completing the mustering task.

At about 0930, the pilot of RCS diverted to Manu bore to refuel the helicopter from drum stock. Following refuelling, the pilot departed back to the small paddock, and at about 0945 acknowledged a departure call from the pilot of PSC who had also completed refuelling at Manu bore.

At about 1000, the pilot of RCS contacted the head musterer via radio to enquire if they had been in contact with the pilot of PSC. The head musterer advised that no contact had occurred since the time PSC had been released. Having received no replies from PSC to their radio calls, the pilot of RCS commenced searching the area around Manu bore, and gradually progressed the search towards GB bore.

At about 1015, the pilot of RCS located the wreckage of PSC. The helicopter was destroyed and the pilot had sustained fatal injuries.

## Context

### ***Pilot information***

The pilot held a Commercial Pilot Licence (Helicopter) with the required ratings and endorsements to operate the accident helicopter, and a valid Class 1 Aviation Medical Certificate. The pilot had about 14,000 flying hours on helicopters, including over 3,000 hours on the R22 type. The pilot also held a Commercial Pilot Licence (Aeroplane), with about 2,500 hours logged.

### ***Aircraft information***

VH-PSC was a Robinson Helicopter Company R22 Beta helicopter, serial number 4429. It was manufactured in the United States in December 2008 and first registered in Australia in January 2009. The helicopter was fitted with a 4-cylinder Lycoming engine, model O-360-J2A, serial number L-40927-36C-C-A. On 15 June 2023, the aircraft underwent a 100-hourly/annual inspection, during which the engine was replaced with a newly overhauled unit. A new maintenance release was issued at this time, which stated that the aircraft had accrued 6,300.2 hours total time-in-service.

### ***Meteorological information***

Witnesses in the area reported that the weather conditions at the time of the accident consisted of overcast<sup>1</sup> skies with no precipitation, a temperature of about 20-25 °C, and a slight breeze.

### ***Site and wreckage information***

The accident site was located in an area that was flat and moderately wooded. The helicopter collided with terrain on an approximate north-west heading. There was a short wreckage trail of about 18 m, with all helicopter parts present at the accident site and no evidence of an in-flight break-up or a post-impact fire.

One main rotor blade tip was liberated in the collision and was found about 40 m to the left of the helicopter. Examination of the flight controls and helicopter structure did not identify any pre-existing defects. The site examination found that both fuel tanks remained intact and contained fuel. In addition, fuel quality was established through testing of fuel stocks at Manu bore and the homestead.

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<sup>1</sup> Cloud cover: in aviation, cloud cover is reported using words that denote the extent of the cover – ‘overcast’ indicates that all the sky is covered.

### ***Recorded information***

The helicopter was not fitted with a tracking unit, flight data recorder or cockpit voice recorder, nor was it required to be.

### **Further investigation**

To date, the ATSB has examined the accident site and wreckage, collected meteorological data from the Bureau of Meteorology, collected pilot and aircraft related records, conducted interviews, and liaised with the Northern Territory Police Force.

The investigation is continuing and will include further review and analysis of:

- electronic data from the pilot's mobile phone
- meteorological data
- wreckage information
- instruments and components collected from the accident site
- aircraft maintenance history
- similar occurrences.

Should a critical safety issue be identified during the course of the investigation, the ATSB will immediately notify relevant parties so appropriate and timely safety action can be taken.

A final report will be released at the conclusion of the investigation.

### **Acknowledgements**

The ATSB acknowledges the assistance provided by the Northern Territory Police Force, the management and staff at Limbunya Station, and the operator.

# General details

## Occurrence details

Date and time:	27 June 2023 – 1030 CST	
Occurrence class:	Accident	
Occurrence categories:	Collision with terrain	
Location:	29 km south-east of Limbunya Station, Queensland	
	Latitude: 17.3795S	Longitude: 130.1067E

## Aircraft details

Manufacturer and model:	Robinson Helicopter R22 Beta	
Registration:	VH-PSC	
Operator:	Northern Aviation Services Pty Ltd	
Serial number:	4429	
Type of operation:	Part 138 Aerial work operations – Task specialist	
Activity:	General aviation / Recreational – Aerial work - Agricultural mustering	
Departure:	Limbunya Station, Northern Territory	
Destination:	Limbunya Station, Northern Territory	
Persons on board:	Crew – 1	Passengers – 0
Injuries:	Crew – 1 (fatal)	Passengers – 0
Aircraft damage:	Destroyed	

# Australian Transport Safety Bureau

## About the ATSB

The ATSB is an independent Commonwealth Government statutory agency. It is governed by a Commission and is entirely separate from transport regulators, policy makers and service providers.

The ATSB's purpose is to improve the safety of, and public confidence in, aviation, rail and marine transport through:

- independent investigation of transport accidents and other safety occurrences
- safety data recording, analysis and research
- fostering safety awareness, knowledge and action.

The ATSB is responsible for investigating accidents and other transport safety matters involving civil aviation, marine and rail operations in Australia, as well as participating in overseas investigations involving Australian-registered aircraft and ships. It prioritises investigations that have the potential to deliver the greatest public benefit through improvements to transport safety.

The ATSB performs its functions in accordance with the provisions of the *Transport Safety Investigation Act 2003* and Regulations and, where applicable, international agreements.

## Purpose of safety investigations

The objective of a safety investigation is to enhance transport safety. This is done through:

- identifying safety issues and facilitating safety action to address those issues
- providing information about occurrences and their associated safety factors to facilitate learning within the transport industry.

It is not a function of the ATSB to apportion blame or provide a means for determining liability. At the same time, an investigation report must include factual material of sufficient weight to support the analysis and findings. At all times the ATSB endeavours to balance the use of material that could imply adverse comment with the need to properly explain what happened, and why, in a fair and unbiased manner. The ATSB does not investigate for the purpose of taking administrative, regulatory or criminal action.

## Terminology

An explanation of terminology used in ATSB investigation reports is available on the ATSB website. This includes terms such as occurrence, contributing factor, other factor that increased risk, and safety issue.