

LIMITED ACCIDENT INVESTIGATION REPORT

Reference Number	CA18/2/3/10056						
Classification	Accident	Date	12 October 2021	Time	1644Z		
Type of Operation	Remotely Piloted Aircraft (Part 101)						
Location							
Place of Departure	Seriti Mine, Klipfontein Extension, Mpumalanga Province		Place of Intended Landing	Seriti Mine, Klipfontein Extension, Mpumalanga Province			
Place of Accident	Seriti Mine, Klipfontein, Mpumalanga Province						
GPS Co-ordinates	Longitude	S 25°57'50.7"	Latitude	E 029°32'03.2"	Elevation	5059 feet	
Aircraft Information							
Registration	ZT-WWE						
Model/Make	DJI Matrice 200 v2 (Serial Number: M200-44)						
Damage to Aircraft	Missing		Total Aircraft Hours	1544			
Pilot-in-command							
Licence Type	Remote Pilot Licence (RPL)		Gender	Male	Age	36	
Licence Valid	Yes						
Total Hours on Type	1281.45		Total Flying Hours	1492.17			
People On-board	0	Injuries	0	Fatalities	0	Other (on ground)	0
What Happened							
<p>On Tuesday, 12 October 2021 at 1610Z, the pilot who was remotely piloting the DJI Matrice 200 drone with registration ZT-WWE was conducting a survey flight at Seriti Mine, Klipfontein Extension in Mpumalanga province when the accident occurred. The flight was conducted under visual meteorological conditions (VMC) and under the provisions of Part 101 of the Civil Aviation Regulations (CAR) 2011 as amended.</p> <p>According to the pilot, he conducted a pre-flight check during which batteries and equipment were inspected and found to be in good condition for the flight. Fail safes were checked and set correctly for the drone to return home if signal was lost. The pilot noticed unusual performance from the drone before he commenced the survey flight; he reported that video break-up occurred from time to time during flight whilst switching between 2.4 and 5.8-Gigahertz (GHz).</p> <p>Take-off time of the survey flight was 1630Z. The drone disconnected around 1644Z, and the pilot lost the drone's line of sight approximately 3.4 kilometres from home point. The drone did not reconnect even after the return home transmission (RTH) was engaged. The pilot then contacted Dispatch to track the drone, but the tracker was not operational at that time and, therefore, there was no way of tracking the drone. The drone had approximately 53% battery endurance, which translated</p>							

to 12 minutes flight time. There was an easterly wind of approximately 12 knots when contact with the drone was lost. The drone was not recovered.



Figure 1: A Matrice 200 Drone. (Source: DJI website)

Probable cause:

The pilot lost sight of the drone and it did not reconnect even after the return home transmission (RTH) was engaged. The cause was likely due to failure of data link.

Safety Action/s

None.

Safety Message and/or Safety Recommendation/s

None.

Purpose of the Investigation

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

About this Report

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