



Air Accident Investigation Unit Ireland

PRELIMINARY REPORT

ACCIDENT

**Cessna T.182T, N247P
Blackstairs Mountain, Co. Carlow, Ireland
24 May 2015**



**An Roinn Iompair
Turasóireachta agus Spóirt**

Department of Transport,
Tourism and Sport

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This Investigation is conducted in accordance with Annex 13 to the Convention on International Civil Aviation, Regulation (EU) No 996/2010 and the provisions of SI 460 of 2009. This Preliminary Report contains information, as known at this time, and does not contain analysis or conclusions. This information is therefore subject to change, and may contain errors; any errors in this Report will be corrected in the Final Report. The sole purpose of this Investigation is the prevention of aviation accidents and incidents. It is not the purpose of this Investigation to apportion blame or liability.

Aircraft Manufacturer:	Cessna Aircraft Corporation	
Model:	T.182T Turbo Skylane	
Nationality:	United States of America (USA)	
Registration:	N247P	
Serial Number:	T18208280	
Year of Manufacture:	2004	
Type of Operation:	Private	
Date / Time (UTC¹):	24 May 2015 @ 09.30 hrs	
Position:	Blackstairs Mountain, Co. Carlow, Ireland	
Persons on Board:	Crew - 1	Passengers - 1
Injuries:	Crew - 1 (Fatal)	Passengers - 1 (Fatal)
Damage:	Aircraft Destroyed	
Investigator-in-Charge:	Leo Murray	

¹ **UTC:** Co-ordinated Universal Time (equivalent to local time – 1 hour between 29 March and 25 October 2015). All timings in this report are in UTC.



1. THE OCCURRENCE

The purpose of the flight was to attend a fly-in at a private airfield near Taghmon, Co. Wexford. The aircraft departed Ballyboy Airfield, Co. Meath at approximately 09.00 hrs. The Pilot regularly brought his two dogs on trips and both dogs accompanied him on this flight. A witness at the departure airfield saw the dogs being placed in their customary position behind the rear cabin seats.

Following departure from Ballyboy, the flight proceeded in a southerly direction towards Athy, Co. Kildare, before taking up a south-easterly course towards the intended destination at Taghmon. This course brought the aircraft to the south of Mount Leinster, peak elevation 793 m (2,602 ft) and towards rising terrain to the south of the summit of Blackstairs Mountain.

Radar returns for the flight displayed the general Visual Flight Rules (VFR) code of 7000 indicating that the flight was operating under VFR. No flight plan was filed for the flight, nor was one required to be filed as the aircraft was operated entirely in Class G airspace². No communications were recorded with any Air Traffic Control (ATC) unit and no en-route airfield reported receiving a call from the aircraft.

2. AIRCRAFT AND ENGINE INFORMATION

The aircraft was registered in the USA as N247P and was based at Ballyboy Airfield. It was powered by a turbo-charged, fuel-injected, Lycoming TIO-540-AK1A engine driving a three-blade constant-speed propeller. The aircraft was equipped to a high specification and incorporated a *Garmin G1000* navigation system with two electronic flight displays, a flight director and an autopilot.

3. RECORDED DATA

3.1 Garmin G1000

The *Garmin G1000* navigation system incorporates a number of Secure Digital (SD) memory card slots. There are two card slots per display, consisting of an upper (top) slot and lower (bottom) slot. SD cards are used for storing the various databases and system software updates. One of the cards (in the upper slot) is used for importing and exporting flight plans, flight data logging and loading navigation database updates. An SD card, believed to be the flight data logging card, was recovered in a damaged state at the accident site. The Investigation is seeking technical assistance from the *Bureau d'Enquêtes et d'Analyses pour la Sécurité de l'Aviation Civile* (BEA), the French Safety Investigation Authority, to attempt to recover the data from this card.

² **Class G airspace:** Airspace within which aircraft are not under the control of ATC, however if requested, a Flight Information Service is provided by ATC.

3.2 Garmin 295

A portable *Garmin 295* GPS³ unit was recovered at the accident site. This unit, although damaged, was taken to the facilities of the Air Accidents Investigation Branch (AAIB) UK where the data was successfully downloaded. The recorded data points show that, following a turn at Athy, a direct track was being followed towards the planned destination. The data indicates that when the aircraft was 8 Nautical Miles (NM) south of Carlow Town at 09.25:42 hrs, a shallow climb commenced. The last track data point was recorded at 09.30:05 hrs, with a calculated groundspeed of 135 knots (kts).

3.3 Radar Data

The Investigation reviewed a replay of the radar data. The aircraft first appeared on radar at 09.00 hrs passing 900 ft in a climb. The replay indicates that the aircraft levelled at an altitude of 1,600 ft and tracked in a southerly direction routing abeam Enfield, Clonbullogue Airfield, Kilrush Airfield and Athy. Approaching Athy, the aircraft turned left in the direction of Taghmon and proceeded over Carlow Town. Radar contact with the aircraft was lost, due to terrain masking⁴ at 09.20 hrs at a position 43 NM north of Waterford Airport. The aircraft reappeared at 09.28 hrs at 2,100 ft in a shallow climb. The final radar return showed the aircraft at an altitude of 2,300 ft, with an indicated airspeed of 120 kts, on a magnetic heading of 169°.

4. SITE EXAMINATION

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The accident site was located on a steep rocky slope on the western side of a ridge extending south-west from the summit, peak elevation 733 m (2,405 ft) of Blackstairs Mountain. The aircraft impacted at an elevation of approximately 2,150 ft. Ground scars at the initial impact point indicate that the aircraft attitude was approximately wings level and slightly nose up. The Investigation found the wreckage fanning out from the initial impact point into the rising terrain. The main portions of the aircraft structure came to rest approximately 110 m from the initial impact point on a magnetic heading of approximately 170°.

Propeller blades, engine accessories, cabin contents and undercarriage components were found between the initial impact point and the main wreckage which comprised of the wings, cabin structure and the empennage. The engine was found approximately 130 m downhill from the main wreckage site. Initial indications are that the engine was providing power at the time of impact.

5. WRECKAGE RECOVERY AND EXAMINATION

Following a thorough examination at the accident site, the aircraft wreckage was recovered with the assistance of the Irish Air Corps and transported by road to the AAIU wreckage facility at Gormanston, Co. Meath, where further examination is on-going.

³ **GPS:** Global Positioning System.

⁴ **Terrain masking:** Radar returns are not received due to the presence of terrain between the target aircraft and the radar head.



6. WEATHER INFORMATION

Met Éireann, the Irish Meteorological service, provided the Investigation with the following aftercast for the Blackstairs area valid for 10.00 hrs on 24 May 2015.

Meteorological Situation: The area was under the influence of a moderate NNW airflow with slight ridging from the Azores High.

Wind: Surface: 340 degrees at 10 kts
2,000 ft: 360 degrees at 28 kts

Visibility: 10+ km but risk localised 100 m above 1,000 ft

Weather: Nil but risk of Fog above 1,000 ft

Cloud: Nil but risk 'Broken' (BKN) cloud 100 ft above 1,000 ft

Surface Temp/Dew Point: Temp 11/12 °C, Dew Point 7/8 °C

MSL Pressure: 1022 hectoPascals (hPa)

Freezing Level: 8,500 ft

Other Comments:

There were no general problems with cloud, visibility or weather. However, the atmosphere up to 925 hPa was absolutely unstable with a lapse rate of approximately 3 °C /1,000 ft. This would have led to a risk of poor visibility and cloud conditions above 1,000 ft due to condensation. Any convective activity would have occurred below 925 hPa because of the sharp inversion at that level caused by descending air in the ridge. There was a SIGMET⁵ in operation for the area at the time indicating mountain wave activity with a maximum vertical speed of 700 fpm above 9,000 ft.

The Automatic Weather Station (AWS) situated at Oakpark, Co. Carlow recorded the following cloud-base heights on 24 May 2015:

Time	Height of cloud-base (m) above station
08.00 hrs	100-200 m (approx. 330-660 ft)
09.00 hrs	300-600 m (approx. 1,000-2,000 ft)
10.00 hrs	600-1,000 m (approx. 2,000-3,300 ft)

Other pilots attending the fly-in described the weather conditions in the vicinity of Blackstairs Mountain about the time of the accident, as '*mist*' and '*drizzle*' with a cloud ceiling between 800 and 1,000 ft above mean sea level (AMSL).

A number of persons living or walking in the area of the Blackstairs Mountain contacted the AAIU and made reports regarding the weather on the morning of the accident. These reports indicated that the upper portion of the mountain was obscured by what was variously described as '*drizzle*', '*rain*' and '*low cloud*'.

The Investigation is on-going and a Final Report will be published in due course.

- END -

⁵ **SIGMET:** Significant Meteorological Report.

In accordance with Annex 13 to the Convention on International Civil Aviation, Regulation (EU) No 996/2010, and Statutory Instrument No. 460 of 2009, Air Navigation (Notification and Investigation of Accidents, Serious Incidents and Incidents) Regulation, 2009, the sole purpose of this investigation is to prevent aviation accidents and serious incidents. It is not the purpose of any such investigation and the associated investigation report to apportion blame or liability.

A safety recommendation shall in no case create a presumption of blame or liability for an occurrence.

Produced by the Air Accident Investigation Unit

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