

<b>Aircraft Type and Registration:</b>	Piper PA-28-161 Cherokee Warrior II, G-BHIL	
<b>No &amp; Type of Engines:</b>	1 Lycoming O-320-D3G piston engine	
<b>Year of Manufacture:</b>	1979	
<b>Date &amp; Time (UTC):</b>	8 February 2005 at 1100 hrs	
<b>Location:</b>	Near Horsmonden, Kent	
<b>Type of Flight:</b>	Private	
<b>Persons on Board:</b>	Crew - 1	Passengers - None
<b>Injuries:</b>	Crew - 1	Passengers - N/A
<b>Nature of Damage:</b>	Aircraft destroyed	
<b>Commander's Licence:</b>	Private Pilot's Licence	
<b>Commander's Age:</b>	52 years	
<b>Commander's Flying Experience:</b>	225 hours (of which 142 were on type) Last 90 days - 5.5 hours Last 28 days - 5.5 hours	
<b>Information Source:</b>	AAIB Field Investigation	

### Synopsis

G-BHIL was returning to the UK on a VFR flight from Zwartberg Airfield, near Genk in Belgium. Although the final destination was Shoreham, it was likely that the pilot intended to land at Old Hay Farmstrip in Kent, before continuing to Shoreham. The weather in Belgium was good but large areas of patchy fog covered the southeast of England. The pilot was using a combination of GPS and visual navigation but, towards the end of the flight, was following the line of the railway between Ashford and Tonbridge. When 2.7 miles to the east of his destination, he appeared to have been unable to continue and commenced a series of climbing and descending manoeuvres in and out of the fog. Whilst in a descending right turn, the aircraft crashed into a grass field, fatally injuring the pilot.

### History of the flight

The pilot had visited the flying club at Shoreham, which operated G-BHIL, and discussed joining the club with the intention of making flights to the continent in connection with his business. On 31 January 2005, he flew with a club instructor on a VFR flight for one hour, as part of the

requirements for hiring aircraft from the club. The instructor considered that he demonstrated a good level of ability, especially as the pilot's last flight prior to the check flight had been on 3 June 2004, nearly eight months earlier.

On 7 February 2005, the pilot arrived at the flying club at about 1100 hrs for a planned 1400 hrs departure. He carried out his flight planning in one of the club briefing rooms and sought the assistance of an instructor to help him file his VFR flight plan. His intended route was from Shoreham to Zwartberg Airfield in Belgium, via the St Inglevert NDB and Bruno VOR. The pilot had recently purchased a handheld GPS navigation unit and, with some assistance, his outbound route was entered.

The pilot was not seen to leave the flying club but he started up the aircraft and taxied to the fuelling point where he instructed the person refuelling his aircraft to fill both tanks, uplifting a total of 51.8 litres. The aircraft departed Shoreham at 1410 hrs and arrived at Zwartberg at 1631 hrs. A member of the Zwartberg flying club saw the aircraft arrive with only the pilot on board and assisted him with closing his flight plan. He also helped the pilot with filing his return VFR flight plan, the declared route being via the Bruno VOR, Calais, Dover, Mayfield VOR, and then direct to Shoreham. The pilot then refuelled his aircraft with 29.93 litres and returned it to the parking area before taking a taxi to his hotel. Although requested by the club member, he did not enter his details in the 'booking in/out' ledger. That evening, in a telephone call to the UK, he expressed at length his satisfaction with his GPS unit, especially the confidence he had in it and the accuracy of the equipment. He also telephoned one of the owners of Old Hay Farmstrip, located to the east of Paddock Wood and just to the south of the Ashford/Tonbridge railway line, and informed him that he might be landing there the next day. He was told to check before he did so, and was given a mobile telephone number to call.

Zwartberg Airfield is closed on Tuesdays. On the morning of Tuesday 8 February 2005, the manager of a maintenance organisation arrived at the airfield at about 0730 hrs and saw G-BHIL parked on the apron covered in frost. From his office, which does not overlook that part of the apron where the aircraft was located, he did not see the pilot arrive but, at about 0830 hrs, he saw G-BHIL backtrack Runway 21 and takeoff. The pilot, however, had not activated the flight plan that was filed the previous evening.

Before the aircraft departed, the pilot telephoned the mobile telephone number for Old Hay and left a message to say that he was coming. Some time after 0800 hrs, the airfield owner received the message and called the pilot's mobile number. When the call was answered, the airfield owner could hear the noise of the aircraft's engine in the background, suggesting that the aircraft was in flight. The airfield owner had just returned from driving his children to school and recalled that it was

foggy, with a visibility of 100 to 200 metres. Accordingly, he told the pilot that the weather was too misty if he was thinking of coming to Old Hay. The pilot replied that he couldn't hear the message, which was then repeated. However, the pilot said that he could still not hear the message, and the call was terminated. The airfield owner called back several times and left messages for the pilot to call him, the last at about 1100 hrs, but by then the aircraft had crashed. The airfield owner was unaware of this fact.

The pilot's GPS unit survived the accident and was downloaded by the AAIB. This gave good track, route and altitude data which, together with information from witnesses, enabled details of the flight to be established. The active route for the aircraft was actually Zwartberg to the Bruno VOR, EGKH (Lashenden-Headcorn) and then via Old Hay Farmstrip to Shoreham.

The pilot made contact with Brussels Information and transited Belgium VFR at about 1,500 feet. At 1009 hrs, the pilot contacted London Flight Information Service and transmitted "GOLF INDIA LIMA PA-28 FROM ZWARTBERG TO SHOREHAM ROUTING VIA CALAIS AND DOVER AND MAYFIELD, CURRENTLY 1,500 FEET WITH ABOUT 10 MILES TO RUN TO DOVER".

At 1015 hrs, the aircraft had crossed the English Channel and coasted in to the south-west of Dover, just before which the pilot requested, and was passed, the Chatham QNH of 1022 hpa. After flying inland for a short distance, he carried out a figure of eight manoeuvre before following the coastline north-east towards Dover. At 1017 hrs, London Information advised the pilot that they had been contacted by Shoreham with the information that his flight plan had been cancelled<sup>1</sup>. The pilot offered no explanation for this and was passed details of the Shoreham weather, which gave the surface wind as calm, visibility of 2,500 metres, cloud FEW at 1,200 feet and a QNH of 1025 hpa. At Dover, the pilot turned to fly north-west until he regained his planned route towards Old Hay. At 1026 hrs, the pilot transmitted to London "IS IT POSSIBLE FOR YOU TO GET ME THE CLOUDBASE AND VISIBILITY FOR HEADCORN?" At 1028 hrs, when G-BHIL was in the area just to the north of Ashford, London Information passed the requested weather to the pilot: "HEADCORN SAY THAT THE SKY IS OBSCURED AND VISIBILITY IS ABOUT ONE KILOMETRE, WIND CALM". The pilot responded "ROGER TO THAT. YOU DON'T KNOW THE HEIGHT OF THE CLOUD ABOVE THE GROUND, DO YOU?" London Information replied "NEGATIVE SIR, ITS OBSCURED SO THEY CAN'T TAKE A PROPER READING. ITS OBVIOUSLY PRETTY LOW".

As the aircraft transited west from Ashford along the line of the railway, it descended several times as low as 200 feet agl. London Information offered the pilot the Lydd weather, to which he responded "NEGATIVE, I'M ACTUALLY BELOW CLOUD NOW SO I CAN SEE WHERE I'M GOING".

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<sup>1</sup> A flight plan which has been filed, but not activated, and for which no cancellation or arrival message has been received is automatically cancelled three hours after the designated time of departure plus the estimated elapsed time for the flight. Archived copies are kept for both activated and inactivated flights.

London Information responded "FAIR ENOUGH SIR, THE WEATHER SEEMS TO BE A LITTLE BIT BETTER TOWARDS THE COAST. IT'S A LOT BETTER THAN HEADCORN". The pilot replied "BEAR THAT IN MIND". At 1032 hrs, the pilot gave his position to London Information as six miles east of Headcorn, but there were no radio transmissions between Headcorn and the pilot of G-BHIL. At about this time an aircraft maintenance engineer at Headcorn heard, but did not see, an aircraft pass by at low level to the north with a high power setting as if it were making a fly-past. At about 1038 hrs, a witness at Staplehurst, who was the Flight Operation Manager at Lashenden Airfield at Headcorn, initially heard and then saw from her rear garden a low winged aircraft emerge from fog, pass overhead, make a left turn and then become lost from sight whilst in the turn.

At about 1040 hrs, the aircraft was approximately three nautical miles to the east of Old Hay when the aircraft climbed to some 1,200 feet over a period of approximately 1.5 minutes. Initially, the climb was very steep, and the aircraft then flew between 1,000 and 1,200 feet. After climbing to the right in the turn through 150°, it turned to the left through 60° at the top of the climb. The aircraft settled on a south-westerly track and maintained a height of between 1,100 and 1,300 feet. At 1043 hrs, the aircraft then entered a right orbit over the eastern edge of the village of Horsmonden. Half way around this orbit the aircraft made a rapid descent, passing over the village at about 400 feet. A witness saw the aircraft coming from the east at low level with the engine sounding at high power. As it departed to the west of the village it was seen to disappear into fog. Then, after a sharp left turn, the aircraft described an orbit to the right at about 500 feet, before adopting a north-easterly track whilst reducing height. At 1048 hrs, London Information requested the aircraft's position, to which the pilot replied "JUST LEFT HEADCORN (break) STILL HEADING TOWARDS MAYFIELD". At the same time, the aircraft commenced a gentle right descending turn, close to some farm buildings. The turn appeared to tighten before the aircraft crashed into a grass field. Approximately one kilometre ahead of the aircraft was a line of electricity pylons but, considering the visibility, it was unlikely that he was turning to avoid them. A witness, who was surrounded by dense fog some 700 metres south-west of the accident site, heard the aircraft at low power, the sound of the engine either continuing up to the sound of the impact or possibly ceasing one or two seconds before. This witness located the wreckage in the fog and contacted the emergency services, who attended the scene. There was no post-crash fire and the sole occupant, the pilot, was fatally injured. Found amongst the contents of the aircraft were large quantities of Class C drugs and tobacco.

### **Impact parameters**

The aircraft made initial contact with the ground at relatively high speed with its right wingtip, on a heading of 200°M and whilst in a nose low attitude and with right bank in excess of 45°. The aircraft continued forward for approximately seven metres when its nose impacted the ground beside a stout hedge. The inboard section of the left wing then made contact with a low tree within the hedge,

rupturing the fuel tank and causing fuel to be spilled, and this brought the aircraft to an abrupt halt (within 10 metres), uprooting the hedge in the process.

## **Weather**

The synoptic situation at 1200 hrs on 8 February 2005 showed low pressure over Iceland and high pressure over the former Soviet satellite states, which was feeding a light south-westerly flow over Belgium and south-east England. At 1100 hrs, the conditions over Kent, around the Tonbridge Wells and Headcorn areas, were widespread mist with some lingering fog patches. Surface visibility was generally 1,500 to 2,500 metres in mist, but locally as low as 800 metres in fog. There were also areas of BKN/OVC stratus cloud, with a base of 800 feet and tops of between 1,500 and 2,000 feet, and SCT/BKN thin strato-cumulus cloud with a base of 5,000 feet. The surface wind was 180°/05 kt and the 2,000 feet wind 210°/12 kt. The surface temperature and dew point were 5°C/4°C and at 2,000 feet 4.2°C/-0.3°C.

The Shoreham Terminal Area Forecast (TAF) covering the period of the flight was:

*EGKA 080847Z 080816 VRB03KT 2000 BR SCT050 TEMPO 0810 0800 FG BKN010  
BECMG1113 7000 NSW*

The Meteorological Actual Reports (METARS) for the time at which the aircraft was in the following areas, or passing the reporting airfield, were:

Ostend: *EBOS 080920Z 13005KT 2000 BR SKC 01/M02 Q1027 BECMG 3000=*  
Manston: *EGMH 081020Z 15005KT 120V210 1800 BR BKN070 06/05 :*  
Biggin Hill: *EGKB 081050Z 21010KT 180V240 1800 BR BKN002 06/05 Q1025*

The unofficial observations at Old Hay and Headcorn Airfield both reported fog.

## **Pilot history**

The pilot commenced flying in February 1981 and flew 37 hours over the following 12 months. He did not fly again until June 1987 and, having completed a total of 70 hours, was issued with a Private Pilot's Licence on 20 April 1988. He gained an IMC rating, issued on 23 June 1989, which remained valid until 22 July 1991 but this was not renewed after that period. He continued to fly VMC cross country flights within the UK and to Western Europe by day and his most recent Certificate of Revalidation was completed, and his log book signed, on 9 July 2003. This was valid until 31 July 2005. He held a current JAA Class two medical certificate valid until 29 April 2005.

## **Medical aspects**

Post mortem examination of the pilot revealed that he died as a result of multiple injuries consistent with being sustained in the accident. Toxicological examination revealed no evidence of alcohol or drugs of any kind being present. However, the pilot had clear evidence of severe pre-existing coronary artery atheroma but there was no gross evidence of an acute cardiac episode. The pilot underwent an ECG in April 2004, which was reported as being normal, but the pathologist stated that:

"it is certainly not unheard of for severe coronary artery disease to be both clinically silent and to produce no ECG changes".

He went on to state that:

"it is difficult to interpret the possible significance of the coronary artery atheroma in the context of this accident. The circumstances of the flight were such that the pilot was under extreme pressure to complete his flight, even though the weather was clearly bad and the visibility was very poor. It appears that there is every reason for the aircraft to have crashed due to procedural factors, and the possibility of medical incapacitation does not necessarily need to be invoked. However, the stress which the pilot would undoubtedly have been experiencing combined with his coronary artery disease could well have produced a spectrum of cardiac-related symptoms, potentially ranging from mild discomfort or palpitations through to the possibility of collapse or indeed death. It is thus entirely possible that his heart condition may have contributed to the accident, although there is no way of being sure of this".

## **Recorded data**

The only source of recorded data relating to this flight was contained within the pilot's handheld Garmin GPS96 receiver found at the accident site. Radar data from London Heathrow, London Gatwick and the Debden radar heads was checked by NATS at the request of the AAIB, but no track of the aircraft was found. The radar head with potentially the best visibility of the southeast was at Pease Pottage, but this was not in service at the time of the accident. However, given the GPS derived altitudes, it is doubtful that this would have had visibility of the final part of the flight.

### *GPS receiver physical condition*

Apart from a cracked screen cover (the screen itself was intact) and slight damage to the surrounding plastic, the receiver was intact. On inspection, the two AA batteries were in place and maintained a good voltage of 2.9v. The unit was switched on whilst shielded from reception of signals from the

GPS satellites and track logs were downloaded using a PC. The pertinent route and waypoint data were recorded by manual interrogation of the unit.

### *GPS data*

Two manually entered waypoints were found stored in the receiver, one relating to the home of the pilot and the other HAY, correlating to Old Hay Farmstrip some 1.5 nm to the northwest the accident site. Various routes were also stored, all starting and ending with either Zwartberg or Shoreham, including the active route at the time of the accident. Apart from spurious short tracks on the ground, there were two flights recorded as log 32 and log 33.

Log 32 started at 1411:15 hrs on 7 February 2005 with a track of 119°M and a groundspeed of 74 kt. This was 2 minutes 9 seconds after the end of log 31, which related to a position on the ground at Shoreham Airfield. Log 32 ended at 1631:39 hrs with an altitude of 278 feet, a track of 217°M and a groundspeed of 7.2 kt. This related to a position at Zwartberg Airfield.

Log 33 started at 0821:37 hrs on 8 February 2005, with the aircraft stationary on the ground at Zwartberg. It took off at 0835:19 hrs, on a track of 214°M and a groundspeed of 68 kt. The log ended at 1048:32 hrs whilst the aircraft was on a track of 187°M, at an altitude of 321 feet and a groundspeed of 105 kt.

Figure 1 shows the track of the aircraft when over the UK together with plots of groundspeed, terrain elevation and GPS altitude, as well as the position of Old Hay Airfield.<sup>1</sup> Figure 2 focuses on the final part of the flight between Staplehurst and the accident location, where the aircraft's ground speed varied between 66 kt and 101 kt. If the aircraft was being flown with the flaps retracted then there were two data points at which the aircraft was being flown within 5 to 10 kt of its stall speed. If it was being flown with the flaps fully extended then there were six points in this portion of the flight at which the maximum permissible speed with flaps extended was exceeded. One of the data points at which the aircraft is near to the stall speed is less than 10 seconds from one of the points at which the maximum flap extension speed is exceeded.

### **Aircraft description and history**

G-BHIL was a Piper Cherokee Warrior II fitted with a Lycoming four cylinder, air-cooled piston engine driving a fixed pitch propeller. The aircraft was constructed in 1980 and had accumulated some 9,465 hours at the time of the accident. The engine was fitted in July 2002 and had run for

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<sup>1</sup> GPS altitude data is not as accurate as GPS lateral data. Analysis of GPS data recorded whilst on the ground indicated that the altitude datums used by the GPS track log, the Ordnance Survey maps and the terrain elevation database (used during analysis for generating terrain profiles beneath the aircraft) correlate.

some 895 hours since new. A 150 hour inspection had been completed on 30 November 2004 and the last maintenance activity occurred on 5 January 2005 when a replacement artificial horizon had been fitted. There were no recorded outstanding maintenance issues.

### **Wreckage examination**

Examination of the wreckage at the site revealed that the aircraft had been complete and structurally intact prior to the accident and that there had been no airborne or ground fire. The pilot was found seated in the front left pilot's seat with his lapstrap secured but with the lateral upper body restraint (diagonal strap) possibly not secured.

Approximately seven litres of liquid, with the visual appearance and odour of Avgas, were recovered from the right wing fuel tank, which had also been ruptured. Fuel staining on the grass over a wide area forward of the left wing was observed the following day indicating that a significant amount of fuel was on board the aircraft at the time of the accident. The propeller and engine cowling had both detached from the engine during the impact and were found approximately 1.5 and 15 metres respectively from the main wreckage. There was evidence of some bending and chordwise scoring on the two propeller blades, suggesting that the engine had been turning and producing some power at the time of impact with the ground.

The fuselage had been severely disrupted in the impact but it was possible to determine that the cabin door had been closed and latched at the time. Continuity of the flying control systems was established and there was no evidence that any control jams had occurred. The horizontal stabiliser trim system was determined as being set close to neutral, a reasonable setting for cruising flight. The flap operating lever in the cockpit was found in the UP position but the linkage to the flap surfaces had been severely disrupted. It was not possible to confirm this selection by means of flap surface position.

The engine could still be turned by hand after the accident and a strip examination later revealed that it had been mechanically sound. The engine tachometer was damaged and found indicating 2,500 RPM, a high power reading for normal cruise conditions, although it could represent a lower power if the aircraft was descending at high speed. The engine fuel and oil pressure gauges had frozen on impact and all indications were in the normal range. The vacuum pump, which powers the attitude and heading indicators, was intact and free to turn. Both magnetos were tested and found to be in satisfactory working order and the spark plugs had a normal appearance. The carburettor hot/cold air selection box had been crushed in the impact but it was possible to determine that the air supply was selected to cold at the time of impact.

In summary, no technical pre-accident defects were identified with the aircraft as a result of the examination of the wreckage.

## **Analysis**

In the absence of any technical reason for the accident being established, this analysis concentrates on the operational aspects of the flight.

Before being allowed to hire an aircraft from the flying club and make his trip to Belgium, the pilot had demonstrated a good level of flying ability during a flight in VFR conditions with a club examiner. However, whilst he had previously held an IMC rating, there was no record in recent years of the pilot having undertaken any IMC flying or training. As his most recent recorded flight as pilot-in-command in a light aircraft was some eight months prior to the accident flight, it is likely that he was not as proficient in using instruments as the sole attitude reference as when his IMC rating was valid. It was not established if he had obtained any detailed weather information prior to the return flight; this would normally have been available at Zwartberg but the airfield was closed on the day of his departure and so was not available from that source.

For his trip, the pilot had carried out thorough flight and route planning both for the outward and return journeys. Whilst his waypoints and route had been loaded into his GPS receiver with some assistance for the outbound flight, he had satisfactorily entered those for the return journey himself. Despite being requested to do so, the pilot had not 'booked' in when he arrived and had not 'booked' out prior to his departure from Zwartberg. Also, although he had filed a flight plan for the return journey to the UK the evening before, it was not activated by telephone or by radio after takeoff. This may well have been an oversight on his part as he may have believed that when he made contact with Brussels Information, activation would be automatic. Crossing an international boundary without a flight plan later attracted the attention of London Information, who specifically asked him where the aircraft had come from and why the flight plan had been cancelled. He failed to give them a reason for this and also omitted to state that he intended to land at Old Hay Farmstrip. All of these actions could be associated with the apparent purpose of his flight, ie, his intention to make an undeclared landing at Old Hay before continuing on to his declared destination of Shoreham.

The flight appears to have been manageable in weather conditions acceptable to the pilot, even when he made landfall to the south-west of Dover. His figure of eight manoeuvre and two rapid descents followed by climbs, both of which were promptly abandoned at 800 feet, appear to have been attempts to get below cloud. From 1020 hrs to 1028 hrs, it is probable that the aircraft was above the fog, with the pilot navigating using his GPS receiver and possibly being able to maintain intermittent visual contact with the surface. The report from London Information at 1028 hrs of the poor weather at Headcorn clearly concerned the pilot, although apparently not enough for him to divert to Lydd or go direct to Shoreham. Until the aircraft reached Staplehurst, its track closely matched that required to reach Old Hay. From 1021 hrs to 1028 hrs, the GPS receiver recorded a continuous descent from

1,600 feet to 1,100 feet, and then a more rapid descent to 600 feet (GPS altitude, not height above terrain). Then, at 1031 hrs, the pilot's comment to London Information that "I'M BELOW CLOUD NOW SO I CAN ACTUALLY SEE WHERE I'M GOING" suggests that he had achieved VMC below stratus cloud to the north-east of Ashford.

From that point until the aircraft was in the Staplehurst area, the aircraft's track paralleled the line of the railway from Ashford to Tonbridge, a well known and distinct line feature. It was apparent from the GPS data that the pilot had flown with the railway on the left side of the aircraft, the side on which he was seated. Visibility was poor in this area with the aircraft flying ever lower, presumably in an attempt to maintain visual contact with the surface. Around this time, the witness at Headcorn heard the aircraft fly past but did not see it due to the poor visibility. From 1038 hrs to 1040 hrs, the aircraft described an erratic series of climbing and descending manoeuvres, generally following the line of the railway, and it would appear that the pilot was experiencing increasing difficulty in following the railway due to the fog. During this period, the Flight Operations Manager from Lashenden Airfield at Headcorn, saw the aircraft emerge from fog as it approached the north side of Staplehurst. Just after 1040 hrs it is likely that, after a rapid climb to 1,200 feet, the aircraft became VMC on top of the fog as it then headed directly towards Old Hay. It seems probable that the pilot intended to fly over the farmstrip at Old Hay to assess the possibility of letting down there but, before reaching the airfield, the aircraft turned to the south-west where the fog was more patchy. The right orbit to the east of Horsmondon at 1043 hrs was over a break in the fog into which the pilot made a rapid descent, levelling off a few hundred feet above the village. The witness here clearly saw the aircraft approaching the village at low level in a gentle right turn, before entering fog.

At this point, the pilot was a few miles from Old Hay, flying in very poor visibility, almost certainly with an insufficient view of the ground to map read and over an area with numerous similar roads and ground features. His low orbits at 1045 hrs probably afforded him some visual contact with the surface which, given his apparent desire to land at Old Hay, he would have been desperate to retain.

The pilot's position report at 1048 hrs, just before he crashed, that he had "JUST LEFT HEADCORN" and was "STILL HEADING TOWARDS MAYFIELD" was incorrect as, at the time of talking to London Information, he was heading in the opposite direction to Mayfield. This meant that either the pilot was lost and disorientated, was passing false information in the hope that London Information would not realise his intention to land at Old Hay, or that he had abandoned his intention to land at Old Hay Farmstrip and intended to route via the Mayfield VOR to Shoreham. He may also have been attempting to navigate to a known point where the weather conditions were better using the VOR and/or his GPS unit. It seems unlikely that he knew his exact position but his GPS was capable of providing him, at the very least, with information on his general location. In the dense fog, he would not have seen the line of pylons crossing his track one kilometre ahead and so it was unlikely that he

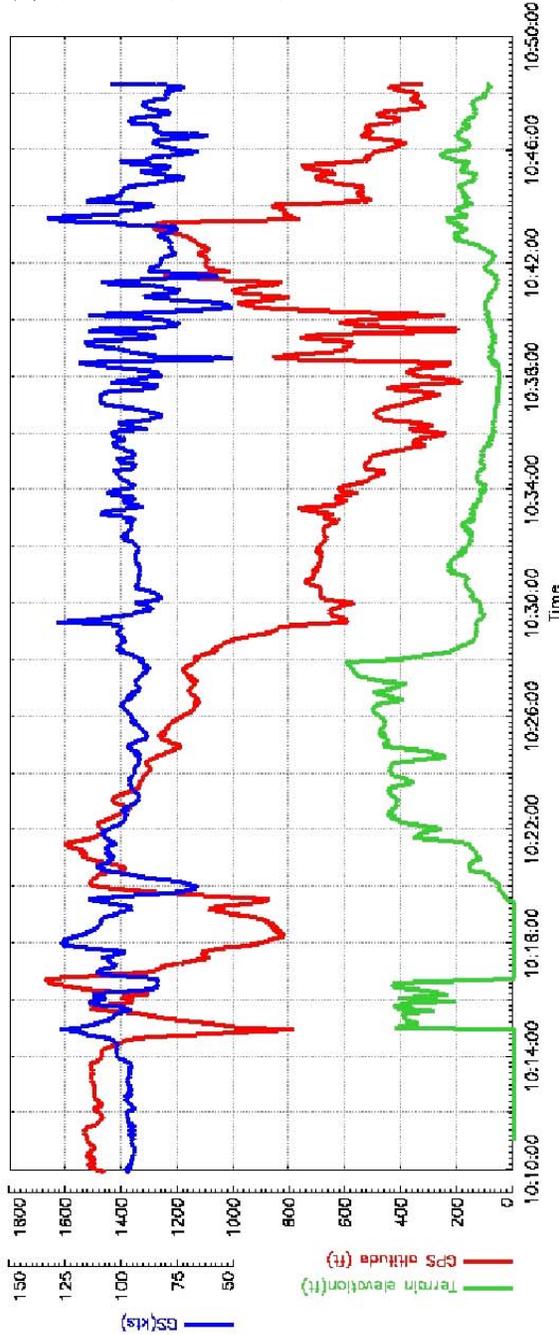
was taking avoiding action. Given that the carburettor air heat control flap was found in the COLD position, and the fact that the aircraft was flying in and out of fog, the possibility that carburettor icing may have formed and reduced the engine power could not be completely dismissed as a reason for the final descent to the ground. However, the indications from the engine instruments suggested that a reasonable level of power was being produced at the time. Also, the right turn initiated just before the impact may have been the start of a turn towards Mayfield, or an attempt to avoid flying low over a farm. It could also have been a result of a medical distraction or incapacitation.

Whatever the reason for the final right turn, the pilot appeared to have lost situational awareness, resulting in his loss of terrain separation which, until that point, he had managed to maintain over a relatively long period of demanding and stressful flying.

### **Conclusions**

The pilot had undertaken a long international flight to an undeclared destination in an area of weather conditions well below VFR minima. His apparent desperate need to land at Old Hay contributed to poor decision making processes in the later stages of this flight. In attempting to maintain or regain visual contact with the surface, possibly whilst distracted by activity in the cockpit related to navigation, loss of engine power due to carburettor icing, loss of situational awareness due to inadvertent entry into fog or due to a medical distraction or incapacitation, the aircraft descended into the ground. No technical causal factors for the accident were identified.





**NOTES**

- GPS altitude is not as accurate as GPS position.
- Ground speed and track are derived from GPS position.
- Given the sources of data, terrain clearance should be used as an approximation only.

**Figure 2**

**Basic flight parameters and plan view of the accident flight from 10:10 UTC.  
(Accident G-BHIL on 8 February at near Horsmonden, Kent)**