

COPY

LOCATION

PHOTOGRAPHS ATTACHED

Reference:

C/S SHEET 16 KILDARE / WICKLOW

The first square marked on attached copy sheet  
locally.

INVESTIGATION AND REPORT INTO THE DEATH OF

<sup>G</sup>  
HAND GLIDER PILOT LEONARD MULLINS ON SUNDAY

JULY 15th 1984.

Site:

Commonly referred to as Locken the actual name  
of the site is Black Hill / Sorrell Hill as  
all westerly facing slopes may be flown.

Take off:

COMPILED BY PETER WILLIS FOR AND ON BEHALF

Issue:

<sup>G</sup>  
OF THE IRISH HAND GLIDING ASSOCIATION.

Points to note:

The site is generally considered to be the  
best all round training hill in County Wicklow.  
It can be flown by beginners on the lower  
slopes and by experienced hang glider pilots  
on the higher slopes. It is virtually free  
from obstacles and provides progress gradually  
in their own time and pace. The site is  
used extensively by the Training School.

Witnesses were interviewed as follows:

7th August, 1984

Witness A.

THOMAS MORROW, COOLEVIN, ROSCREA, CO. TIPPERARY

Witness B.

BRIAN HERRON, 15 ST. ANNES AVENUE, RAHEEN, DUBLIN.

Witness C.

JOHN O'TOOLE, KILTYMON, NEWCASTLE, CO. WICKLOW.

## LOCATION

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### PHOTOGRAPHS ATTACHED

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Reference: O/S SHEET 16 KILDARE / WICKLOW  
The red square marked on attached copy shows locality.

The hand sketch attached shows location of take off and impact.

Site: Commonly referred to as Lacken the actual name of the site is Black Hill / Sorrell Hill as all westerly facing slopes may be flown.

Take off point: Black Hill

Impact Point: 200 feet almost due west and below take off.

Points to note: The site is generally considered to be the best all round training hill in County Wicklow. It can be flown by beginners on the lower slopes and by experienced hang glider pilots on the higher slopes. It is virtually free from obstacles and novices progress gradually in their own time and pace. The site is used extensively by the Training School.

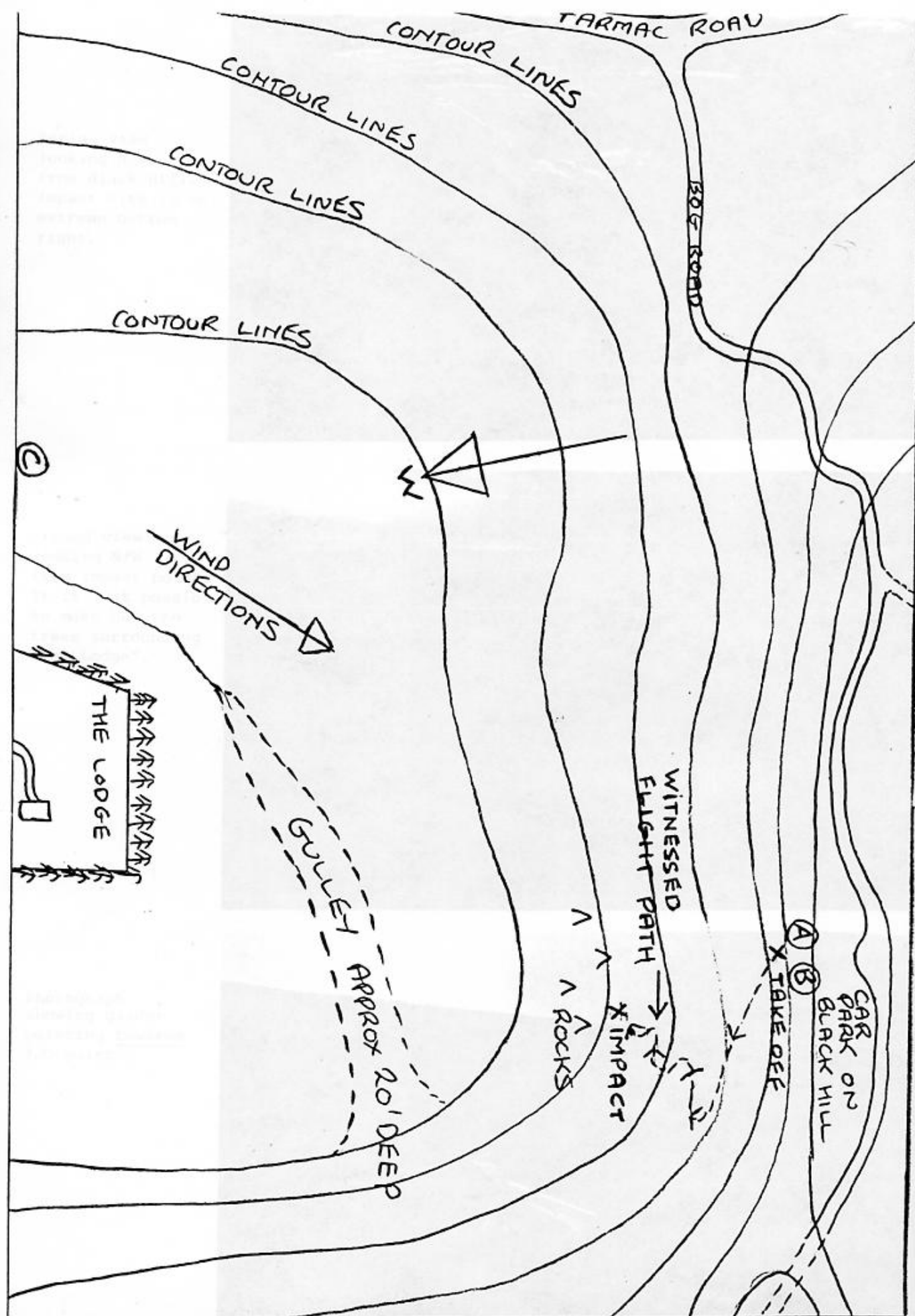
Witnesses were positioned as follows:

Witness A. TREVOR MORROW, COOLEVIN, ROSCREA, CO. TIPPERARY

Witness B. BRIAN HERRON, 15 ST. ANNES AVENUE, RAHENY, DUBLIN.

Witness C. JOHN O'TOOLE, KILTYMON, NEWCASTLE, CO. WICKLOW.





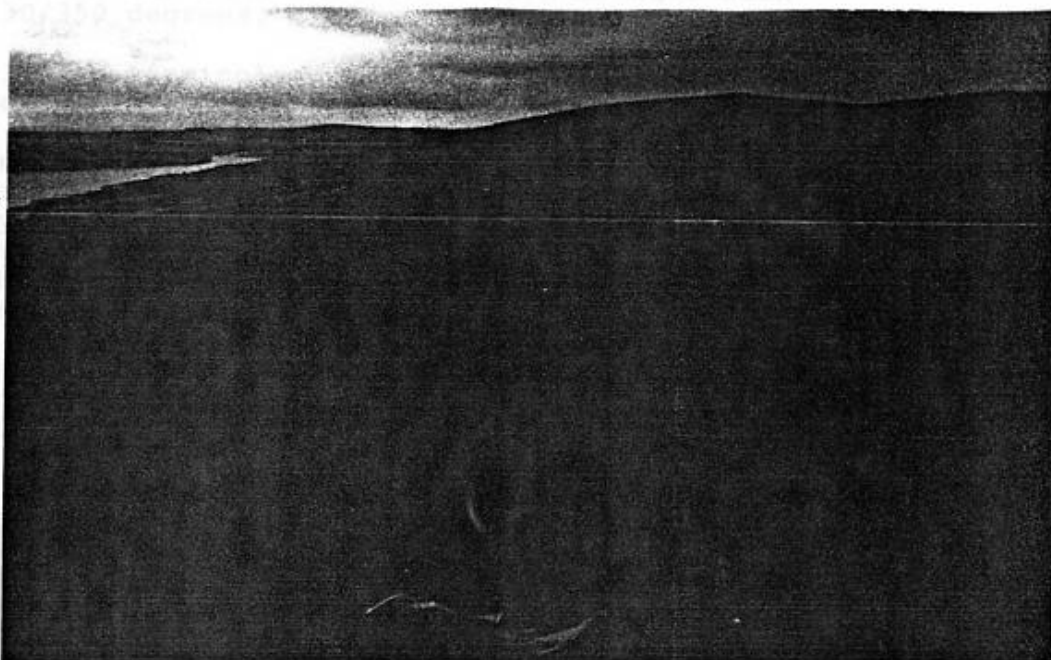
N.B. NOT TO SCALE.



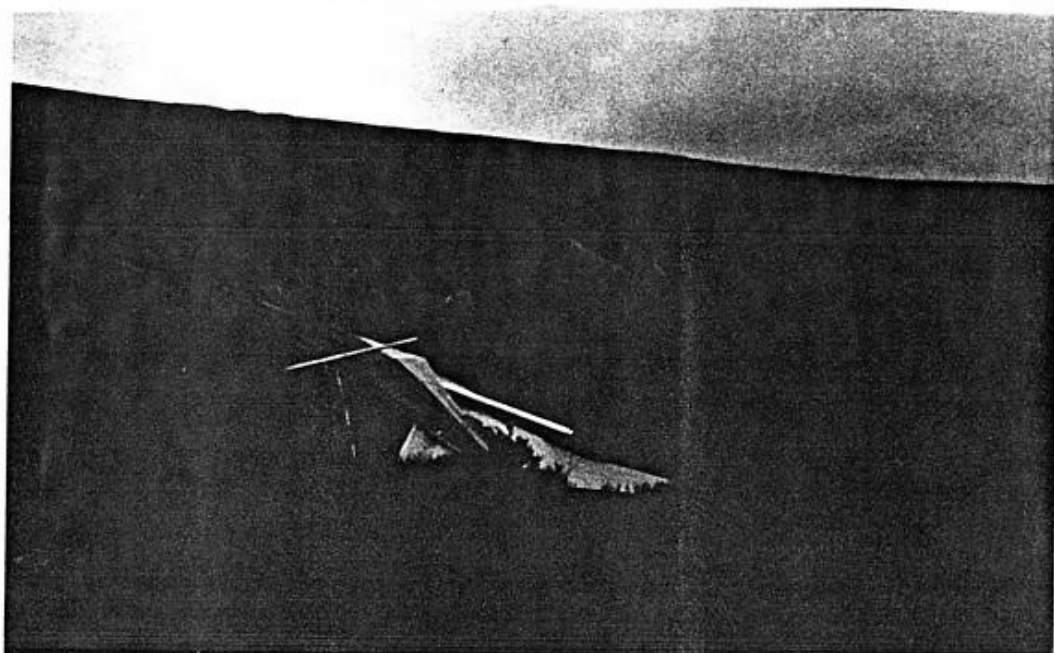
Aerial view  
looking N/W  
from Black Hill.  
Impact site is on  
extreme bottom  
right.



Ground view  
looking N/W  
from impact point.  
It is just possible  
to make out the  
trees surrounding  
"The Lodge".



Photograph  
showing glider  
pointing towards  
T/O point.



## CONDITIONS

The Met Office report attached shows wind speeds at 2,000 feet ASL to have been between 20/25 knots. Take off on Black Hill is 1,600 ASL and wind speed recorded at Dublin Airport is shown to have been 10/15 knots.

The report also shows the wind direction to have been between 330/350 degrees.

In hand gliding terminology the generally north westerly winds were an ideal direction for the site and the wind strengths were acceptable. However with increasing wind strengths regularly moved onto the hill and before, during and after these squalls, novice pilots were warned not to fly until wind strengths had moderated. The instability (lapse rate) that day enabled pilots to achieve good height gains before showers approached but not during or after shower clouds.

There were approximately 14 experienced fliers on Black Hill during that afternoon and all were agreed that local weather conditions were quite acceptable for the site.

It should be noted that flying on the lower slopes had been called off at 3 p.m. as weather conditions (wind strength and direction) were unsuitable for the training school and beginners. Light winds of no more than 5/6 knots are required for the lower training slopes.

DUBLIN AIRPORT      Sunday, 15th July

Time GMT	Wind Direction & Speed (Surface)	Cloud Amount and Type and Base	Wind Direction & Speed (2000 ft)	Vis	Reports of CB
1000	320° 15 Kts	2 Cu 2,000 ft 5 Sc 3,200 ft	330° 20 Kts	36 Km	Belmullet
1100	320° 15 Kts	2 Cu 2,000 ft 6 Sc 2,500 ft	340°-360° 20 Kts	36 Km	Belmullet
1200	310° 15 Kts Gust 24 Kts at Baldonnel	5 Cu 2,200 ft 5 Sc 3,000 ft	340°-360° 20-25 Kts	36 Km	Belmullet, Kilkenny
1300	330° 15 Kts	5 Cu 2,400 ft 4 Sc 3,000 ft	330°-350° 20 Kts	36 Km	Belmullet
1400	310° 10 Kts	5 Cu 2,500 ft 4 Sc 3,000 ft	330°-350° 25-30 Kts	35 Km	Belmullet
1500	310° 15 Kts	4 Cu 2,500 ft 5 Sc 3,300 ft	330°-350° 20 Kts	38 Km	
1600	310° 5 Kts	4 Cu 2,600 ft 5 Sc 3,500 ft	340°-360° 20-25 Kts	38 Km	Clones
1700	320° 10 Kts	2 Cu 2,800 ft 6 Sc 3,600 ft	340°-360° 20-25 Kts	38 Km	Clones
1800	320° 10 Kts	2 Cu 2,600 ft 6 Sc 3,600 ft	330°-350° 20-25 Kts	32 Km	Clones

## REPORT OF DAMAGE TO GLIDER

### DETAILS OF EQUIPMENT

To enable the glider to be moved away from the pilot and to enable storage, several bent aluminium tubing was broken. This only refers to the pilot's left upright control frame tube.

1. Approximately five year old Medium Hiway Spectrum Hang Glider. This make has not been manufactured for at least four years but parts are freely available as its airframe is largely interchangeable with its more modern counterparts such as the Scorpion and the Superscorpion, also manufactured by Hiway Limited.

2. Leonard's colleagues are in agreement that he had mastered the glider well during the nine weeks he had been flying and had not experienced any real difficulties with the machine.

3. The condition of the Spectrum had been checked by Peter Willis at the time of purchase and was considered to be well maintained and sound.

4. There were no marks on any part of the glider to show it had impacted with nearby rocks.

5. The fracture marks indicate the glider's left side impacted first, probably on the corner of the control frame. It would seem likely that immediately after impact the glider "ground looped" turned upside down hence forcing the king post through the roll aperture. It would also seem likely that a second ground loop occurred as the glider was found facing uphill and out of wind.

6. This report could find no evidence to indicate structural failure of the glider while in flight.



Photograph showing  
glider's left upright  
bent through 80°.

This picture was  
taken at the impact  
with debris the  
light faded.

## REPORT OF DAMAGE TO GLIDER

### PHOTOGRAPHS ENCLOSED

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To enable the glider to be moved away from the pilot and to enable storage, severely bent aluminium tubing was broken. This only refers to the pilot's left upright control frame tube.

1. Glider's left upright tube bent through 80 degrees at centre. Glider's right upright tube 20 degrees bent at centre and clearly broken off at top. Bottom control bar bent 10 degrees at centre.
2. Glider's left cross boom broken. Glider's right cross boom intact.
3. Glider's keel 10 degrees bent to left at front of glider.
4. Glider's two leading edges intact.
5. Glider's king post intact, but sprung through aperture and found beneath sail. The pivot nut severely bent, but the keel is not compressed.
6. Top rigging intact.
7. Bottom rigging intact.
8. Sail intact.
9. Batons intact but had obviously been repaired at some stage.

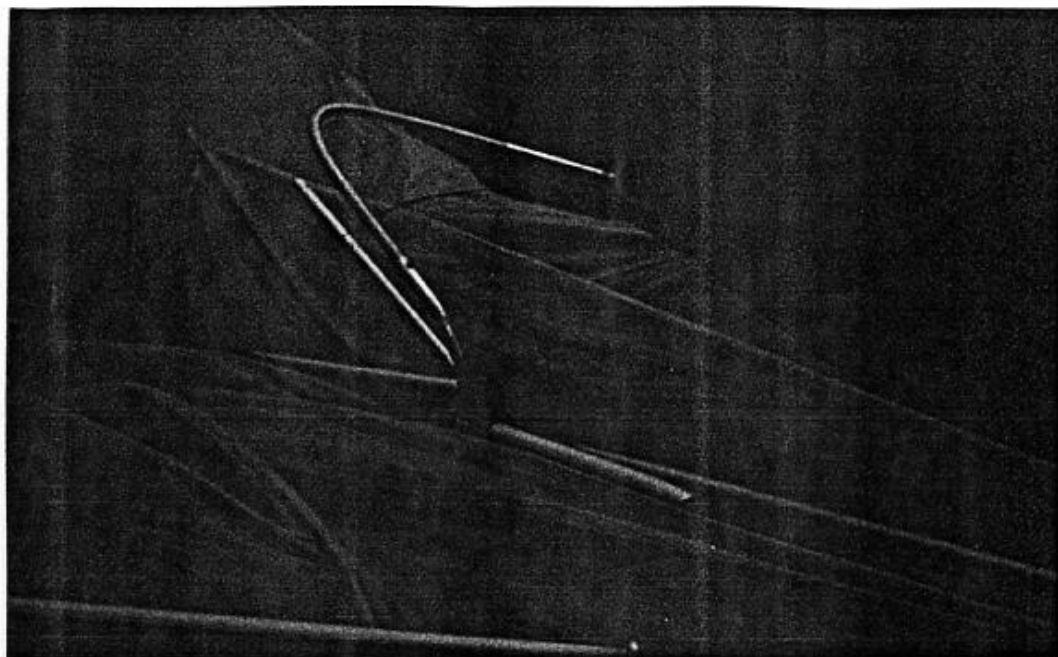
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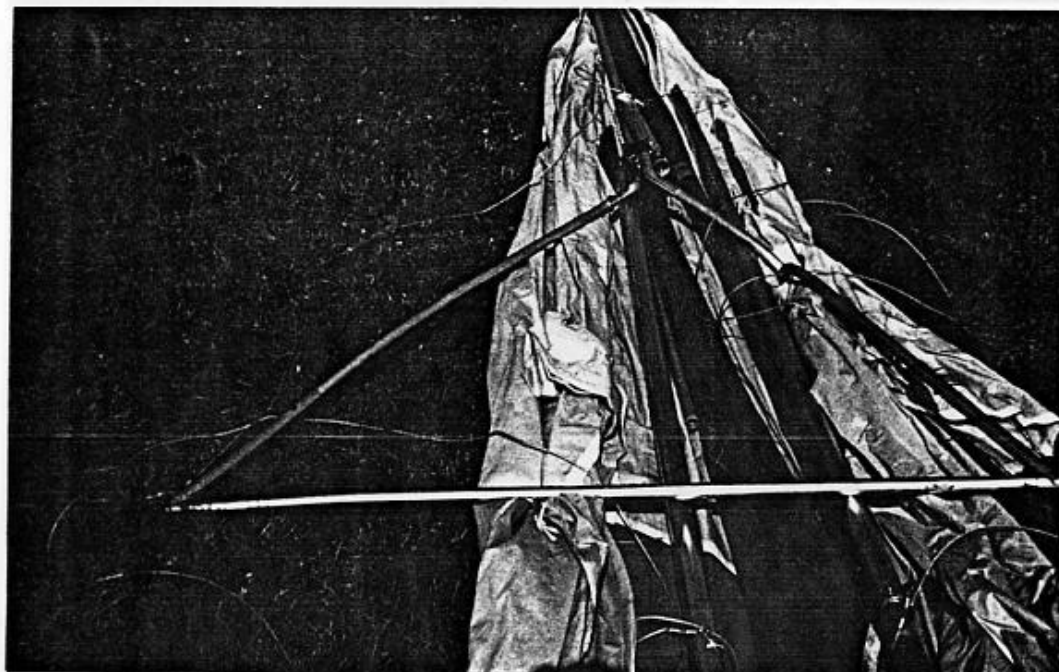
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Photograph showing  
pilot's left upright  
bent through 80°.

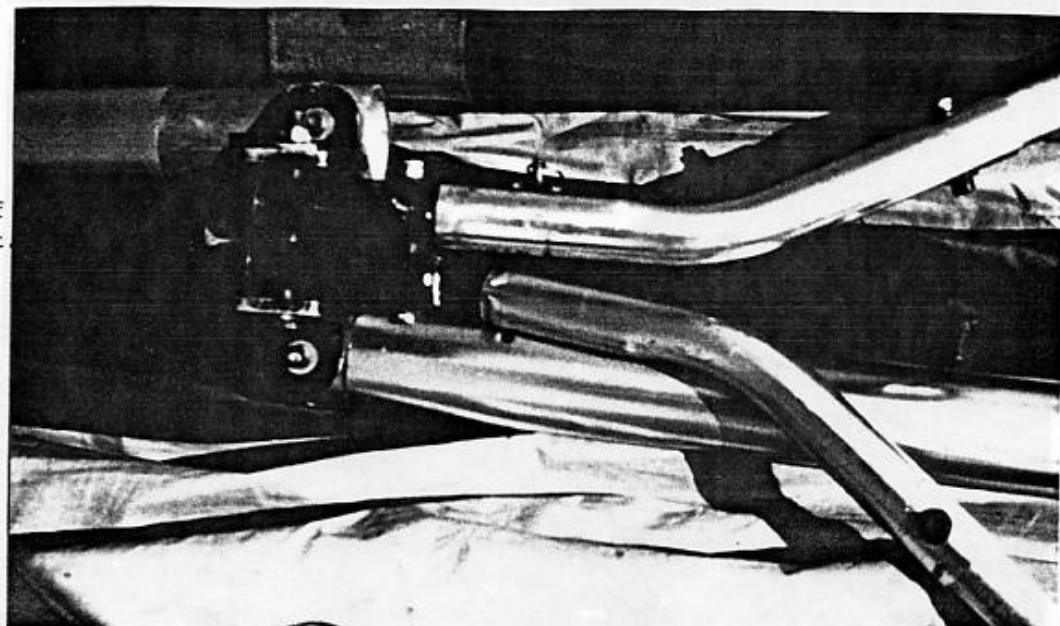
This picture was  
taken at the impact  
site before the  
light failed.



Entire control  
frame assembled.



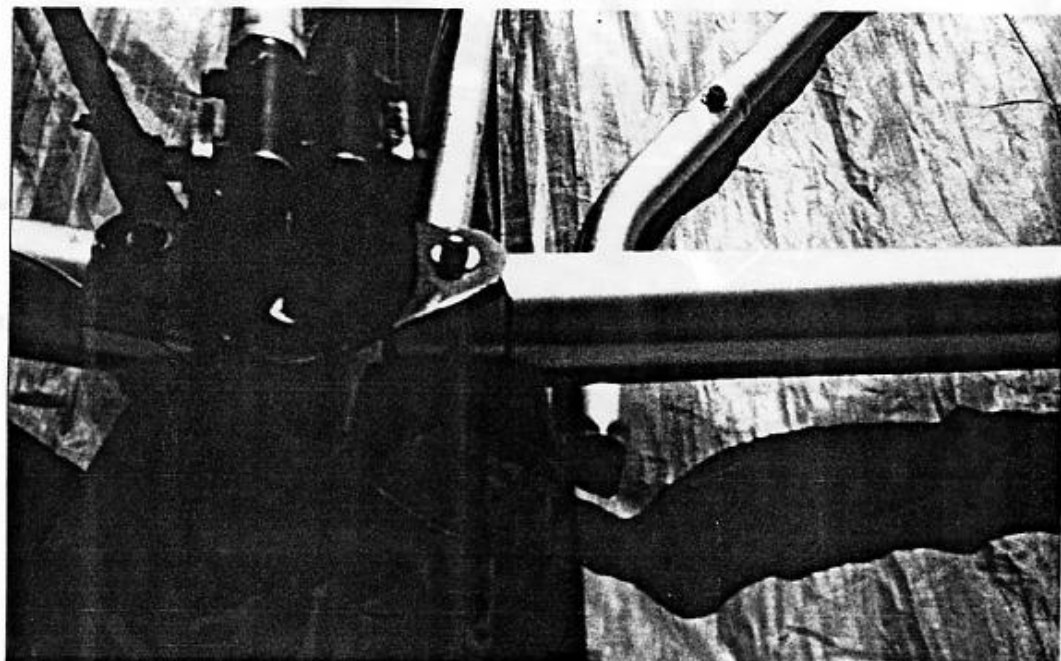
Photograph showing  
clean break at top of  
pilot's right upright.



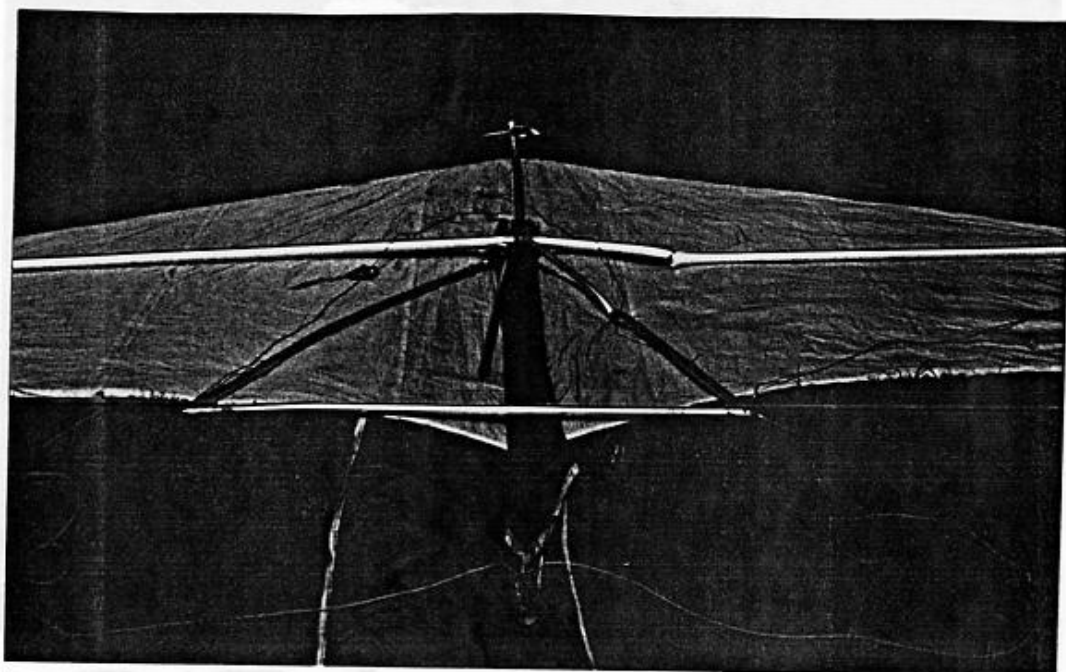
# Centre Assembly

showing ring post  
protruding a distance  
of 1/4 inch.

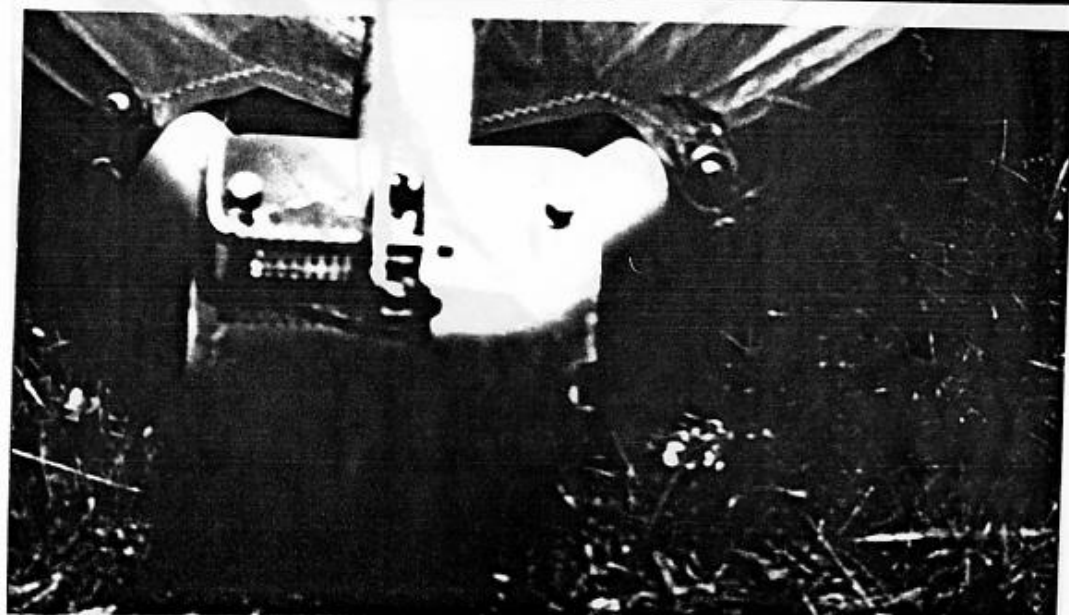
Note that center bolt  
on which the ring post  
normally rests.



Glider assembled  
upside down showing  
broken cross tube  
(boom) on pilot's  
left.



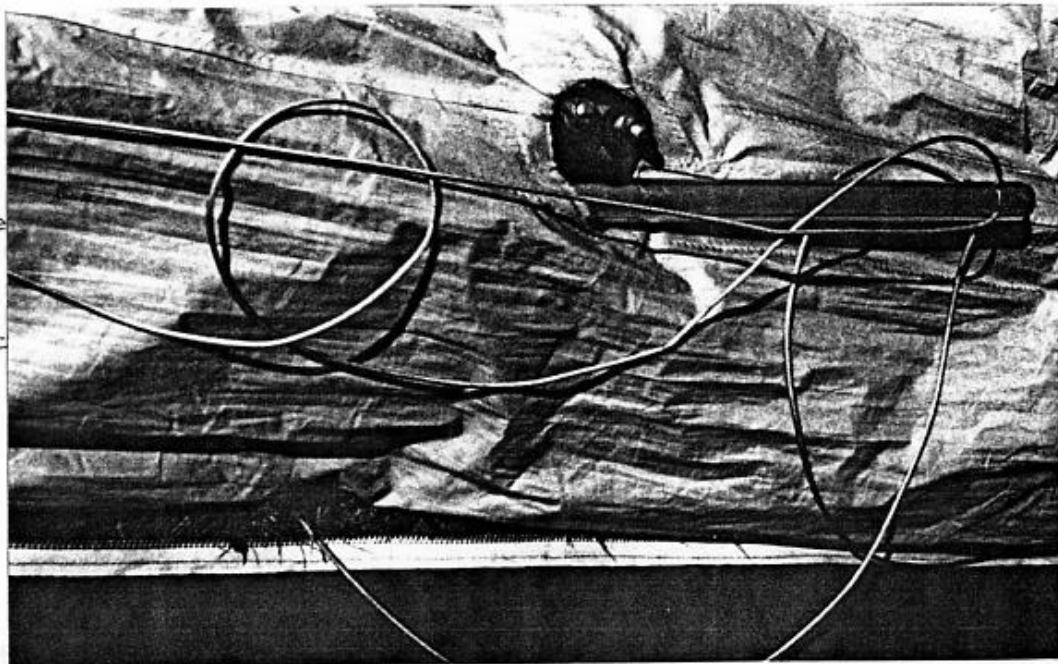
Nose assembly. The  
small piece missing  
is an old fracture.



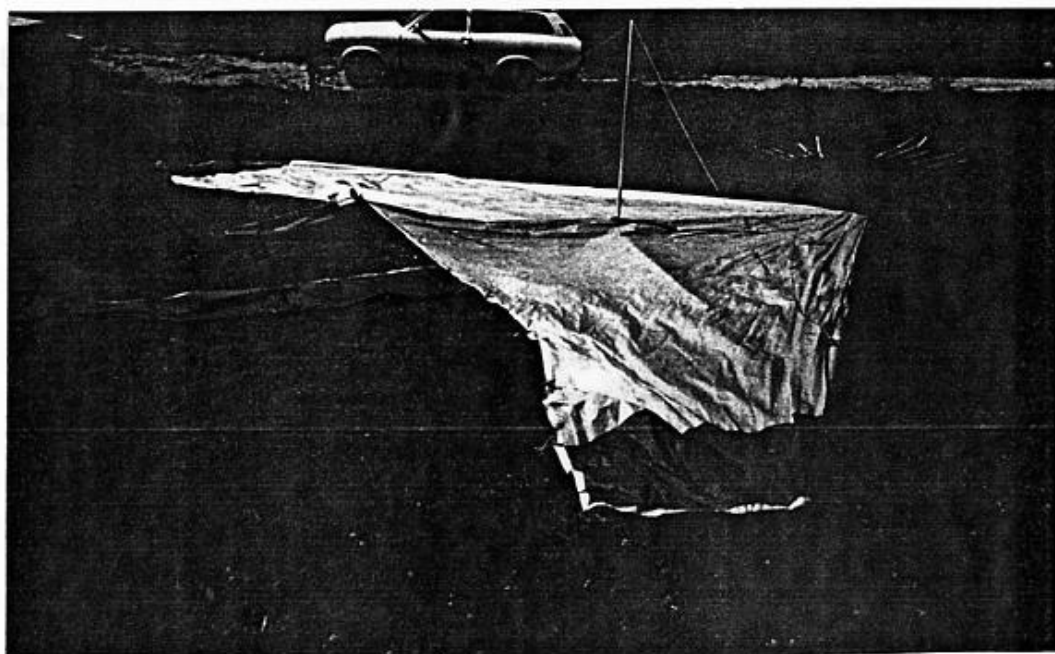


Top photograph  
showing king post  
protruding to underside  
of glider.

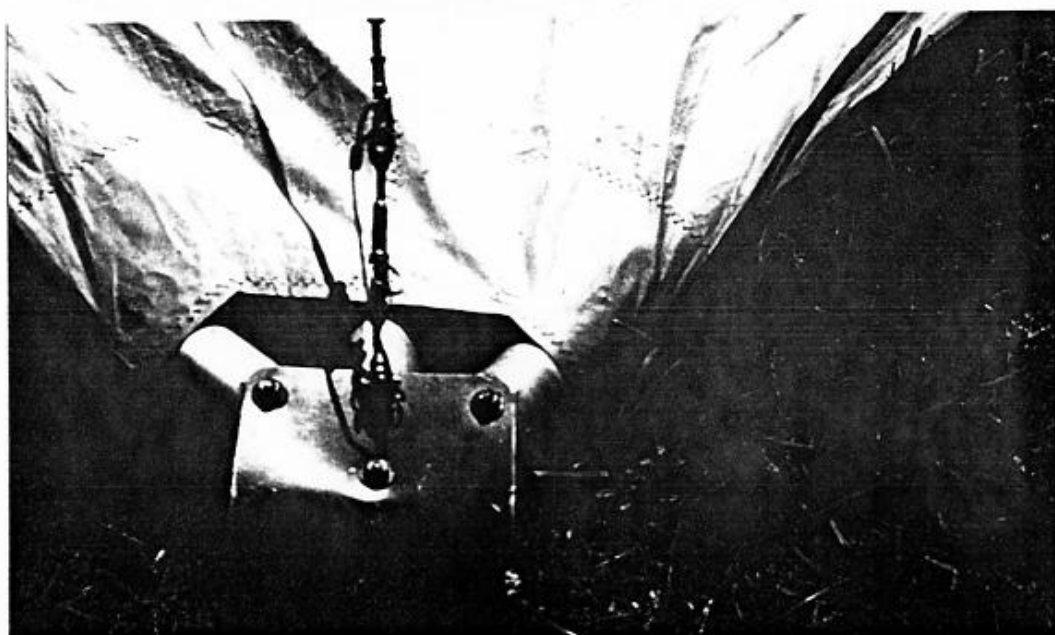
Note bent centre bolt  
on which the king post  
normally rests.



Top view of glider  
showing top rigging  
intact.



Nose assembly  
from top.



MEDICAL REPORT

This can be obtained from the Coroner's Office at Naas General Hospital, upon request.

It was not available at the time of writing. However, Leonard Mullins was pronounced dead by Rescue Services when they arrived on the scene approximately 25 minutes after being called.



## SUMMARY OF EVENTS

SUMMARY OF EVENTS

Continued page 2

From witnesses reports, Leonard Mullins was enjoying his day's flying having had two previous flights to the bottom landing area. He had received advice from experienced fliers on more than two occasions during the course of that afternoon and had brought his glider back to the top of Black Hill, by car, for a third flight. He could not take off immediately as another shower, accompanied by squalls was moving towards Black Hill. The time was approximately 6.30 p.m. and all other fliers with the exception of witnesses A and B had left the Hill. Witness C was in the bottom landing area having missed his lift back to the top of the Hill.

All three fliers sheltered in their cars while the shower and squalls passed and when it cleared all three prepared to take off. Leonard Mullins was first into the air while the other two fliers manouvered one of their gliders forward to the take off point. Wind strength at this time increased to approximately 20 knots. Neither Witness A nor B saw the take off, which was assisted by the brother of Witness B. But it apparently passed without incident. Witnesses A and B saw Leonard Mullins track left along the ridge and when he had covered some fifty yards he turned right in order to face directly into the wind. Witness A during this time had to release the tension on his glider because of the strong wind.

With the increased wind on the Hill it would seem that Leonard Mullins was unable to penetrate forward and "pulled in the control bar" to increase his own speed and compensate. This in effect reduced his glide angle and increased his air speed. Small movements of weight shift were now exaggerated and it would appear that one of two things happened:

- 1) He began over correcting causing the glider to oscillate with an eventual turn down wind. He could only have been 70/80 feet above the ground with his reduced glide angle and at that height with such a tail wind it would have taken considerable experience to turn the glider around.
- 2) The glider was subjected to a succession of thermal gusts causing severe turns which the inexperienced pilot was unable to rectify. Despite the term "stall" being used by witnesses it would seem unlikely that this could have happened while facing into wind with the control frame far enough back to penetrate forward. However, from ground level with one wing lifting and the other falling it must have seemed similar to a series of stalls.

contd/...

## SUMMARY OF EVENTS

Continued page 2

The result of either of these actions was a downwind stall as seen by Witness C followed by a ground loop. As all have stated they reached Leonard Mullins within 3/5 minutes. Finding no pulse they began cardiac massage and mouth to mouth resuscitation, but to no avail.

It was not until approximately 8.00 p.m. that the other members of the Irish Hang Gliding Association were informed of the accident. Peter Willis, Simon Curtis, Michael Butler, all experienced pilots went back to the site and recovered the glider which is presently at Peter Willis's house. Photographs were taken in poor light, but it should be noted that the glider had been moved to help Rescue Services. The Rescue Service pronounced Leonard Mullins dead on arrival.

CONCLUSIONS

In the final analysis it is the pilot's own choice whether to launch or not. There can be little doubt that this accident was a direct result of Leonard Mullins's inability to control the glider.

A combination of his own determination to "soar" the ridge lift and so stay with his friends who had some 3/4 weeks experience ahead of him. The apparent belief that "all was well" with the weather as he prepared for take off, thinking his two friends were doing likewise behind him and finally his own inexperience in misjudging all the relevant factors, contributed to the accident. Leonard Mullins should not have attempted a new manoeuvre without the advice and supervision of an experienced pilot.

Inexperience has been singled out in a summary of English reports, as being largely responsible for most accidents and there can be no doubt that this was the case on the day.

The final conclusion of this report is that Leonard Mullins in an effort to soar his hang glider took off into strong winds (increasingly strong headwinds). As a result of this he found himself in circumstances that he was not prepared for. His inexperience led him to make incorrect decisions that eventually put the glider downwind into a stall and into the side of the Hill.

Signed: JOHN O'TOOLE

Small view across the lake with the wind strength about very light.

On the 15th July, 1984, I was hang gliding off Lacken with quite a lot of other hang glider pilots and among them was Leonard Mullins, whom I had met only once before this day.

Everybody seemed to be having a good days flying so I decided to take my first jump from the top. I jumped and had a short but pleasant flight to the bottom. I packed the glider into its bag and headed for the pick-up point with the glider on my back, where I hoped Leonard and Brian would be waiting for me, because they had not long gone before me. But they were not there, so I waited for about three quarters of an hour and then I decided to walk back up the hill to get my own van and collect the glider.

As I was walking up the hill, I noticed Leonard in the air and he seemed to be flying quite well. He flew parallel to the hill in the Blessington Lake direction. He then doubled back and headed in the opposite direction. Then he got into trouble. I don't know what he was trying to do whether he was trying to lose some height or turn around and fly down along parallel to the hill again, or just face the glider into wind again but he stalled the glider and then stalled it again. This time the glider turned on its side and crashed to the ground from about sixty feet. It then went over on its back.

I got up to Leonard as quickly as I could. On the way up I met Brian who was running to get an ambulance. When I got up Trevor was there and Leonard was lying on his stomach. He seemed not to be breathing so we turned him over on his back and Trevor gave him mouth to mouth and I felt for pulse. We tried for at least ten minutes but he was dead. Later the ambulance and helicopter came and took him away.

Signed: JOHN O'TOOLE

From where I was the wind strength seemed very light.

STATEMENT ON THE ACCIDENT OF LEONARD MULLINS

by: TREVOR MORROW

On Sunday the 15th July 1984 I was at Lacken and on the hill when Leonard Mullins took off. He had flown twice previously that day, one of which I witnessed and which was a perfectly good flight, the second was also without incident.

I had know Leonard for about 9 weeks since we started to fly together and we had used the Lacken site for the majority of our flights. During the day of the 15th July there were about 16 people flying from the same site.

By about 5.00 - 5.30 p.m. most people were leaving having been there since 2.00 p.m. or so. The experienced pilots tend to leave around this time as the winds usually get lighter in the evening which means the soaring is not as good (less height gain) and also many have families. Three of us stayed on for more flights. I went up for a quick flight of perhaps five minutes, returned to the top of the hill (top landing) and demobilized my glider as it was starting to spit rain.

Twenty minutes later the rain had stopped and the three of us went to prepare our gliders. Having top landed previously mine was well back from the take-off point and so I asked Brian (the other flier) to assist me in walking the kite forward and over heavy bog. As we got near the take off site I noticed Leonard flying away from the hill (not having seen his actual launch).

He turned evenly to the left and was gaining some height from take-off when he turned back into the wind, he was experiencing some turbulence. After about three minutes flying he started to lose height and head towards the landing field. When he reached a point perhaps about 80 feet above the ground he went below my line of vision. After a brief moment having run down the hill about 30 yards I saw his kite crashed below.

Brian and I (plus his brother and friend) ran down to Leonard. However I could feel no pulse. Brian ran for help.



Report of Trevor Morrow

Page 2

After about 1 minute trying for pulse and breathing we turned him over and I carried out cardiac massage and mouth to mouth resuscitation intermittently for about 15 minutes, however, there was no response. About half an hour later an ambulance arrived and then the army helicopter. I later identified Leonard Mullins in the Naas Hospital.

Signed: \_\_\_\_\_

TREVOR J. MORROW

15th July, 1984