

**ISLAY/Port Ellen
NDB(L)'LAY' 128°**

ELEV 58FT
VAR 9°W

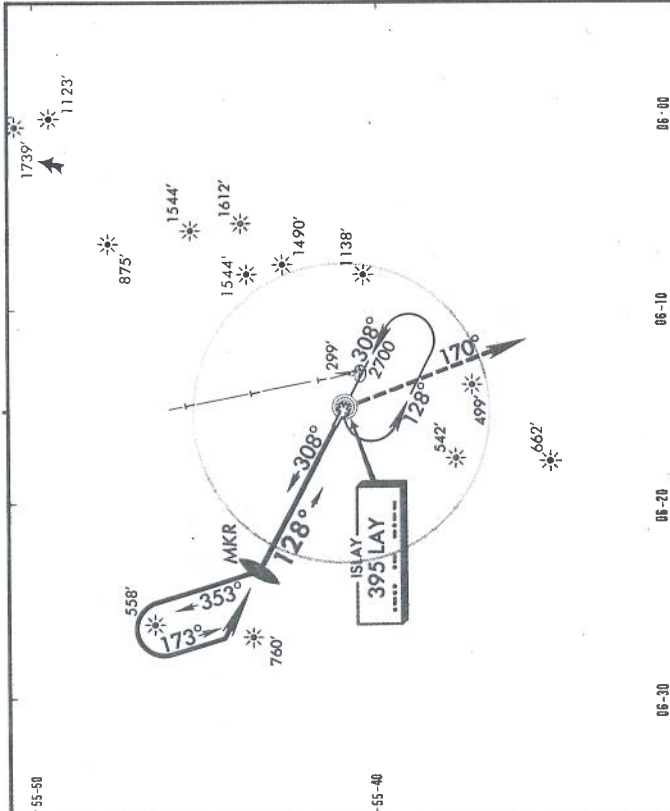
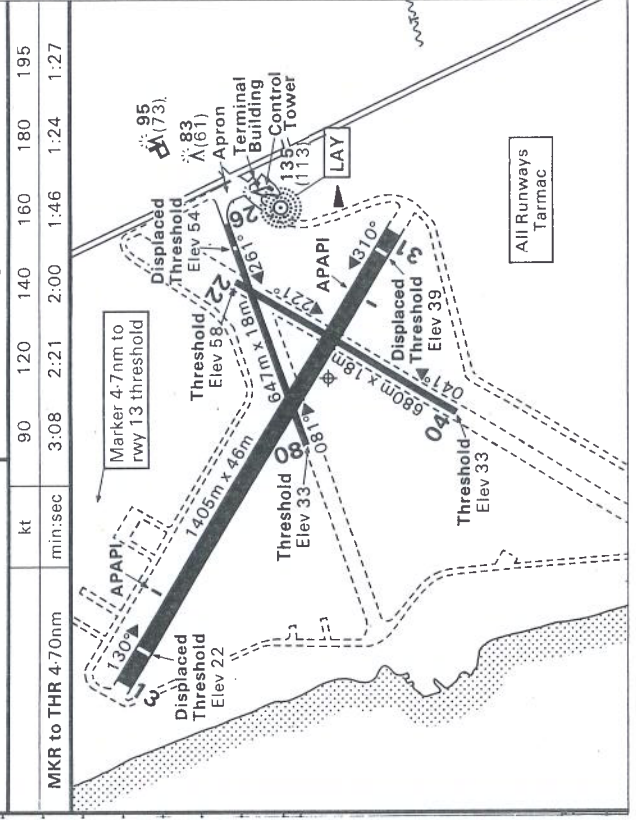
299
(277)

BEARINGS ARE MAGNETIC
ELEVATIONS IN FEET AMSL
HEIGHTS IN FEET ABOVE
THR ELEV RWY 13

**ACFT
CAT
A,B**

**INSTRUMENT APPROACH
AND LANDING CHART**

RADIO	
SERVICE	FREQUENCY
AFIS	123.15
NOTE Call on AFIS frequency 10nm prior to arrival with flight details and intentions.	
LIGHTING	
APP 13	APAPI (3°) LHS.
31	APAPI (4°) LHS.
THR 13/31	Green W bars.
RWY 13/31	LI Omni-d. End lights rad.
OTHER	Blue taxiway lights from rwy 13/31 via rwy 08/26 to the apron. Obstructions.
MISSED APPROACH POINT	3nm from marker, 1.7nm from threshold
MISSED APPROACH PROCEDURE	
At Missed Approach Point climb straight ahead to 522 (500) then climbing turn right onto 170°. Climb to 1000 (978) prior to accelerating then continue climb to 2700 (2678) before returning to NDB(L)'LAY' or climbing to enroute altitude as appropriate.	
OBSTACLE CLEARANCE HEIGHTS	
AIRCRAFT CATEGORY	A B
PROCEDURE	472(450) 472(450)
VISUAL MANOEUVRING	1108(1050)† 1108(1050)† 758(700)† 758(700)† (150° clockwise to 050°)
LOWEST HOLDING ALTITUDE	2700 † Heights in feet AAL.
MKR to THR	kt min:sec
4-70nm	90 120 140 160 180 195 3:08 2:21 2:00 1:46 1:24 1:27



High terrain E and S of airport.

DESCENDING to 1780' (1758') 128° 1560' (1538') 128° 3.0NM to MAP 4.7

MKR 3600' (3578') Lctr

0 APT. 58'

RWY 13 22'

OCA(H) RWY 13 472' (450')

MISSED APPROACH: Climb AHEAD to 530' (508'), then climbing turn RIGHT onto track 170° to 2700' (2678'). Turn LEFT to return to Lctr at 2700' (2678') or as directed. Climb to 1000' (978) prior to accelerating onto track 170°.

STRAIGHT-IN LANDING RWY 13

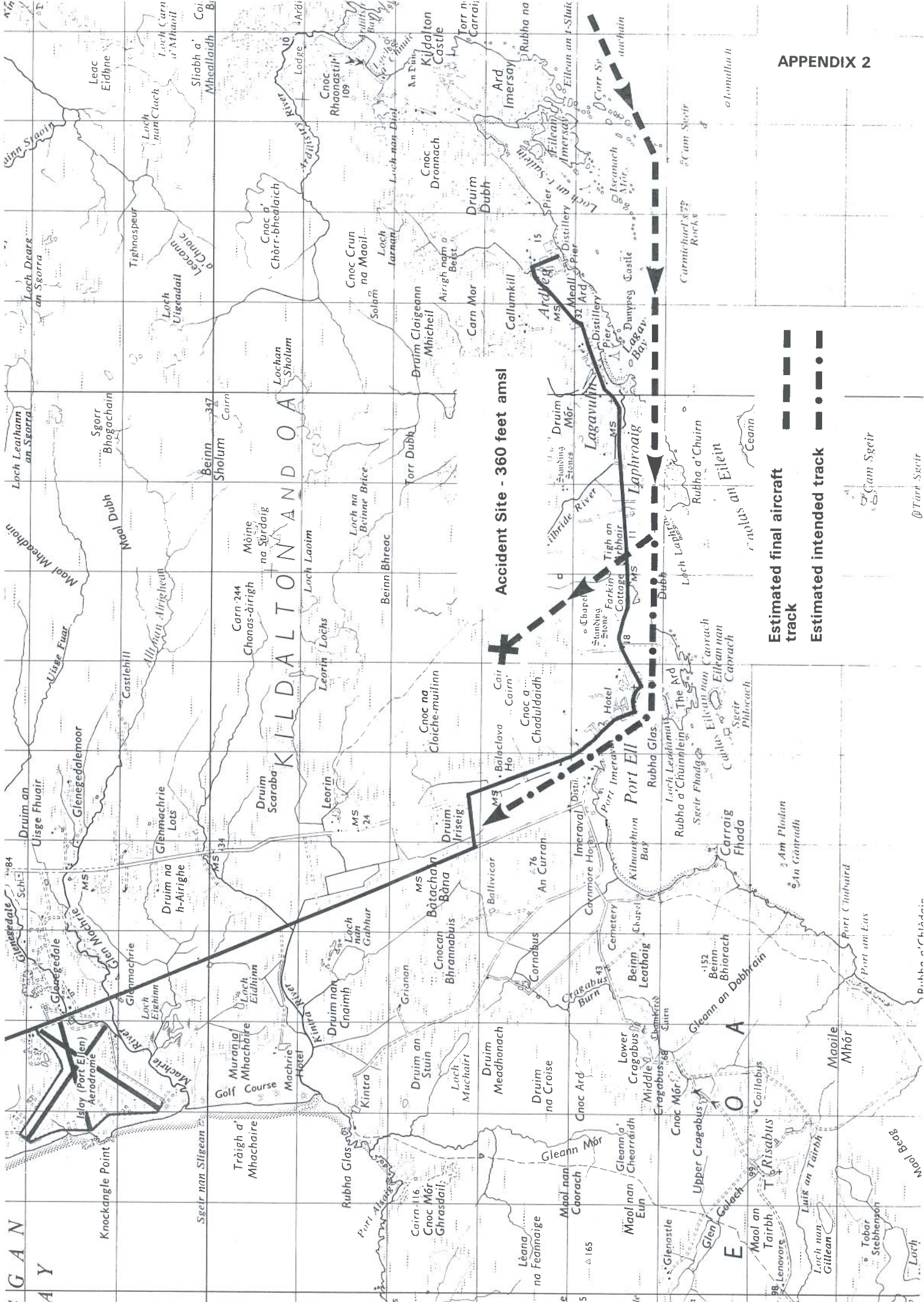
MDA 480' (458')

CIRCLE-TO-LAND	
Within sector clockwise QDR 150° - 050° from LAY NDB	
MDA	MDA
A	760' (702') 1600m
B	1110' (1052') 1600m
C	NOT APPLICABLE
D	NOT APPLICABLE

GRD. SPEED-Kts	70	90	100	120	140	160	180	200
MKR to MAP	3.0	2:34	2:00	1:48	1:30	1:17	1:08	1:08

UK AUTH 1500m.

© 1984 JEPPESEN SANDERSON, INC. ALL RIGHTS RESERVED.



Estimated final aircraft track

Estimated intended track

Cam Sgeir

Torb Sgeir



The Accident Site

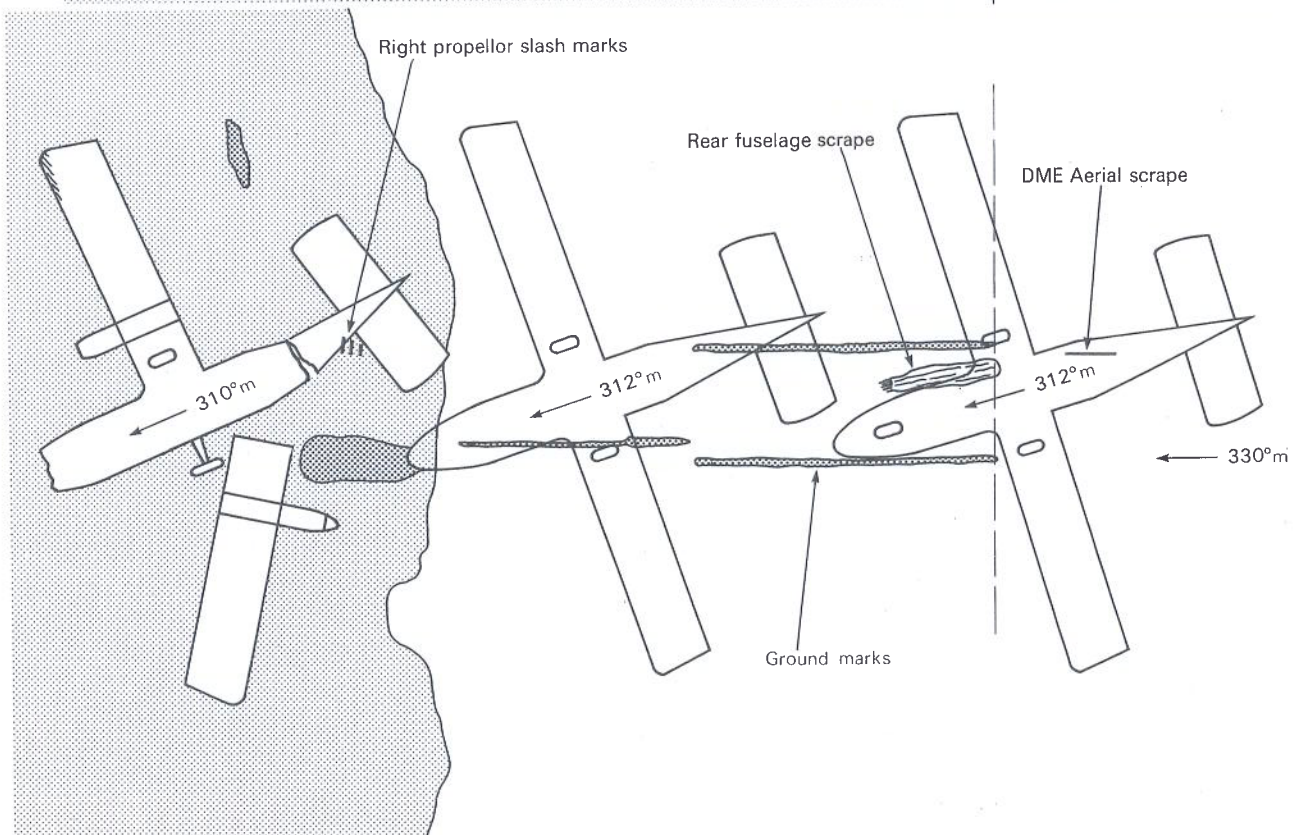
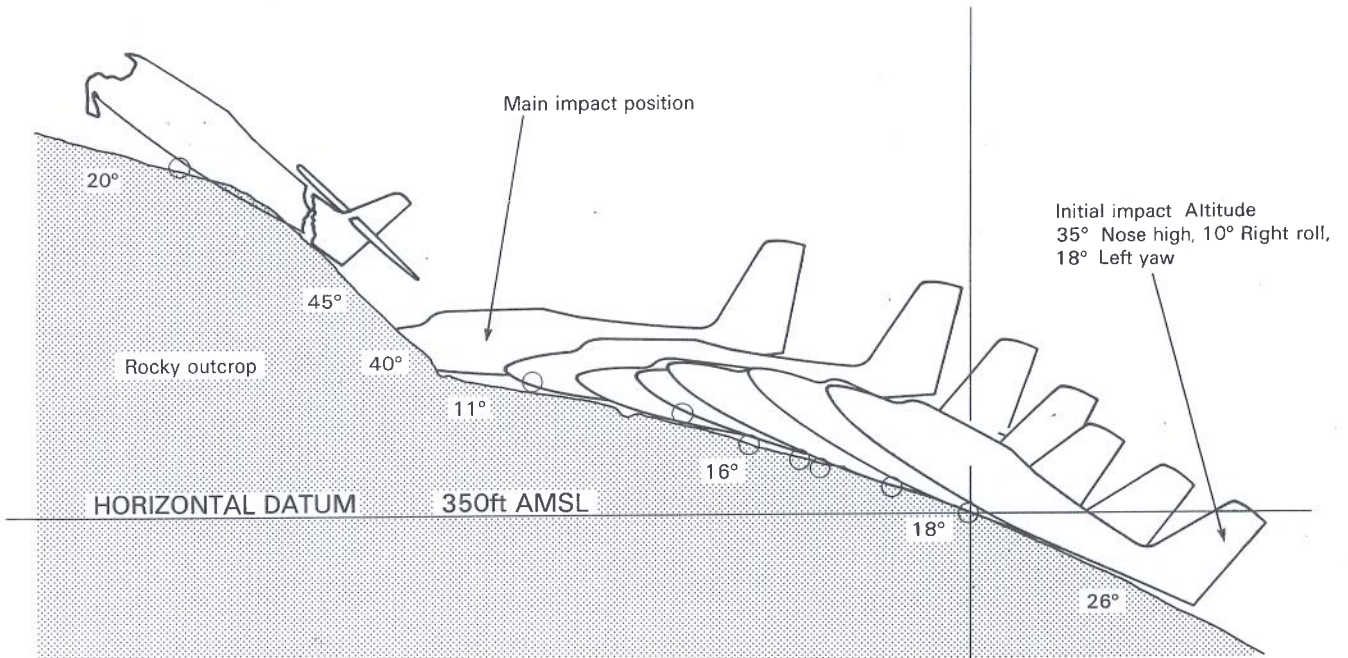


DIAGRAM SHOWING IMPACT SEQUENCE OF G-BGPC

EXTRACTS FROM REGULATIONS RELEVANT TO THE CONDUCT OF THE FLIGHT
(current at the date of the accident)

1. The Air Navigation Order 1985

(a) LOW FLYING

Rules of the Air, Rule 5 (1) (e)

“An aircraft shall not fly closer than 500 feet to any person, vessel, vehicle or structure.”

Rules of the Air, Rule 5 (2) (d)

Paragraph (1) (e) of this Rule shall not apply to:

“any aircraft while it is landing or taking off in accordance with normal aviation practice.”

(b) VISUAL FLIGHT RULES (outside controlled airspace)

Rules of the Air, Rule 23 (a) (ii)

“An aircraft other than a helicopter flying outside controlled airspace at or below 3000 feet above mean sea level shall remain at least 1 nautical mile horizontally and 1000 feet vertically away from cloud and in a flight visibility of at least 3 nautical miles:

Provided that this sub-paragraph shall be deemed to be complied with if the aircraft is flown at a speed which according to its air speed indicator is 140 knots or less and remains clear of cloud, in sight of the surface and in a flight visibility of at least 1 nautical mile.”

(c) AERODROME OPERATING MINIMA

ANO Article 30, para 5 (b)

A public transport aircraft shall not: “continue an approach to landing at any aerodrome by flying below the specified decision height unless from that height the specified visual reference for landing is established and maintained.”

For “Specified Visual Reference”, the CAA guide to the construction of Operations Manuals, contained in CAP 360 Part One, says: “For a visual circuit of the aerodrome based on visual manoeuvring minima a pilot should have continuous sight of ground features which will enable him to establish the position of the aircraft in relation to the aerodrome and subsequently to remain within the notified visual manoeuvring area.”

2. Loganair Operations Manual

(a) CANCELLATION OF IFR FLIGHT PLANS

Part 1, Ch 1, para 6.5 (a)

Conditions when cancellation is acceptable:

1. The flight can be continued to the destination airfield in accordance with Visual Flight Rules
2. Adequate means of safe navigation of the aircraft to the destination aerodrome are available or the aerodrome is in sight at the time of the cancellation
3. Instrument Meteorological Conditions do not prevail over the remainder of the route or at the destination aerodrome.

(b) DESCENT BELOW MSA

Part 1, Ch 1, para 6.6

Prohibition. Descent below MSA is prohibited in the following conditions:

- (i) When on an IFR flight plan
- (ii) In Instrument Meteorological Conditions

(c) CIRCLING MINIMA

Part 1, Ch 1, para 12.8

Circling Minima represent the lowest conditions in terms of Circling Height and In-flight Visibility, in which a circuit or partial circuit, using visual reference to the airfield surface, may be carried out within a fixed radius or sector of an aerodrome at which landing is intended. If an approach ban is in force circling is not allowed. Circling minima are applicable to:-

- (i) an instrument let-down (Cloud break procedure) made for the purpose of landing on a runway other than that (if any) directly served by the approach aid being used, OR
- (ii) a visual circuit following overshoot from either an instrument or a purely visual approach.

(d) VFR LIMITS

Part 1, Ch 1, para 12.16 (v)

The Company limits for VFR flights are:-

- (i) **DHC6 and BN2A**
An in-flight visibility of 2 mm. A minimum en route altitude of 500 feet over the sea, or 500 feet above ground level.

(e) DEFINITIONS

Part 1, Ch 1, para 12.6

These definitions are included to standardise terminology and to interpret Company Policy on certain requirements:-

- (i) **Approach to Landing**, means that part of the flight of the aircraft in which it is descending below a height of 1000 feet above the specified Decision Height.
- (ii) **Cloud Ceiling**, in relation to an aerodrome means the vertical distance from the elevation of the aerodrome to the lowest part of any cloud visible from the aerodrome which is sufficient to obscure more than one half of the sky.

3. CAP 360 – Part One

(a) Specification of visual reference

Part 1, Ch 2, para 14.13.3

For approaches using aids other than a full ILS or PAR when approach lighting is not available, the specified visual reference should include the aiming point, ie the desired point of touchdown on the runway of intended landing. If approach lights are available it is not essential that the aiming point should be in view at decision height, but the segment of lighting specified should contain at least seven consecutive lights, which may be approach lights or runway lights, or a combination of both.



The Island of Islay under typical stratus cloud in a westerly airstream



The coast abeam Laphroaig



The coast approaching Port Ellen

NB. In the weather conditions reported at the time of the accident, Port Ellen would not have been visible from an aircraft flying at less than 100 feet overhead Laphroaig.