
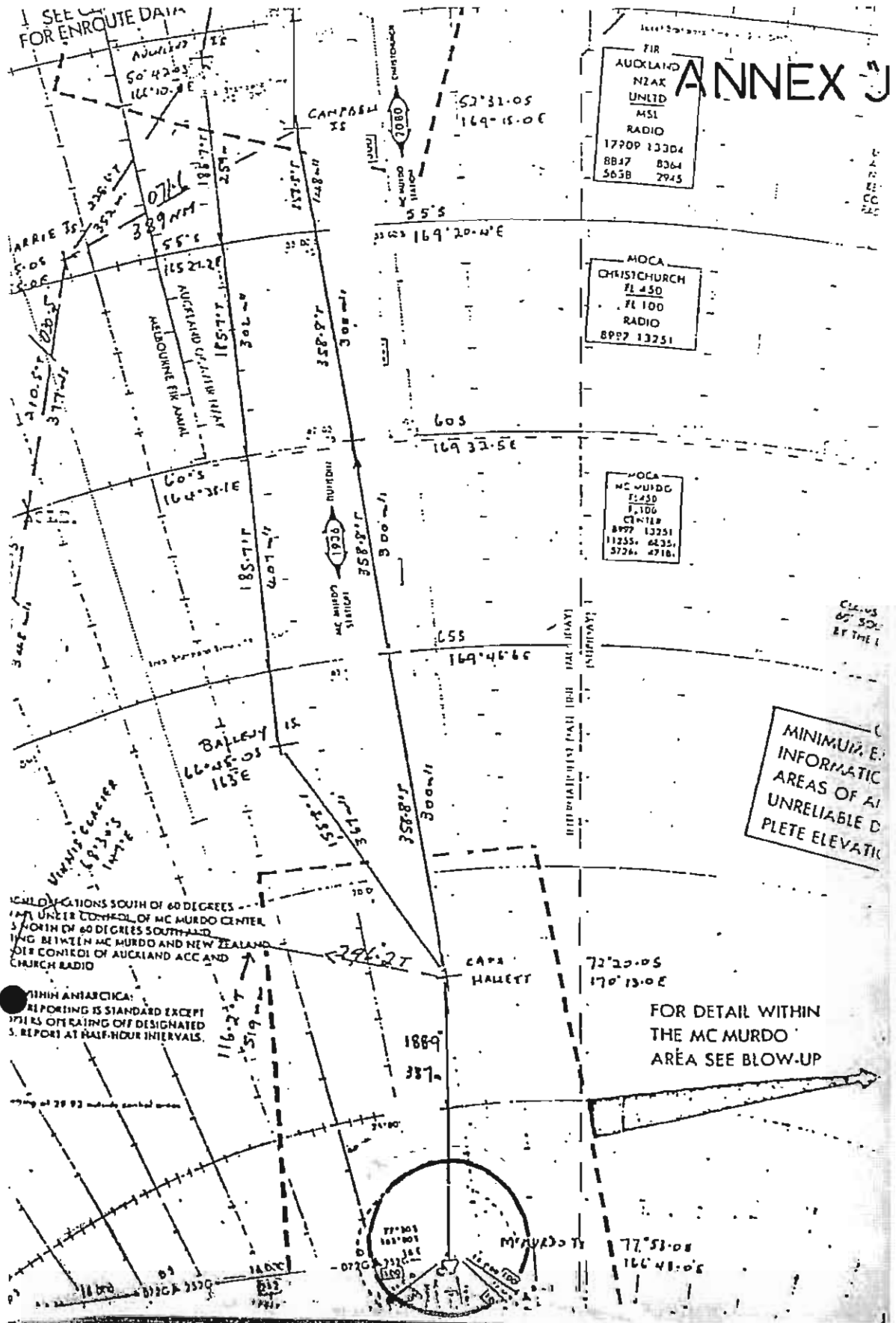


**ANTARCTIC STRIP CHART OPERAT**  
**McMURDO SOUND**  
**TO**  
**CHRISTCHURCH**





98.4.76 CA 133

**DEPARTMENT OF CIVIL AVIATION  
NEW ZEALAND**

**AIR TRANSPORT FLIGHT INSPECTION REPORT**

*ADDA (P)*  
*Dec 1977*

NAME OF OPERATOR: <b>Air New Zealand</b>		FLIGHT NUMBER: <b>TE9012</b>	
DEPARTURE			
TIME: <b>0800</b>	DATE: <b>15.2.77</b>		
ROUTE			
FROM <b>AUCKLAND</b>		TO <b>CHCH</b>	
EN ROUTE STOPS: <b>IA ANTARCTICA</b>			
AIRCRAFT			
TYPE: <b>DC10</b>		REGISTRATION: <b>ZK-NZN</b>	
ACTUAL I/F: <b>.35</b>		SIMULATED I/F:	

PILOT CREW	RANK	CABIN CREW	RANK
1. <b>GEMMELL</b>	<b>CAPT</b>	1. _____	_____
2. <b>LAWSON</b>	<b>CAPT</b>	2. _____	_____
3. <b>SINCLAIR</b>	<b>F/O</b>	3. _____	_____
4. <b>AMIES</b>	<b>N/O</b>	4. _____	_____
5. <b>ROBERTSON</b>	<b>E/O</b>	5. _____	_____
6. <b>OLLIFF</b>	<b>E/O</b>	6. _____	_____
7. _____	_____	7. _____	_____

FLIGHT TIMES	TOTAL: <b>11.00</b>	DAY: <b>11.00</b>	NIGHT: <b>--</b>
--------------	---------------------	-------------------	------------------

EN ROUTE INSPECTION CHECK LIST					
ITEM	SAT	UNSAT	ITEM	SAT	UNSAT
PRE-FLIGHT			FLIGHT CREW—GENERAL		
1. WEATHER ANALYSIS	X		35. LICENCE VALIDITY	X	
2. FLIGHT PLANNING	X		36. VIGILANCE	X	
3. TAKE-OFF WEIGHT AND BALANCE DATA	X		37. CREW COORDINATION	X	
4. TAKE-OFF PERFORMANCE CALCULATIONS	X		38. JUDGMENT (CAPTAIN)	X	
5. FIRST OFFICER'S PRE-FLIGHT	X		39. FLIGHT MANAGEMENT (CAPTAIN)	X	
6. FLIGHT ENGINEER'S PRE-FLIGHT	X		40. COMPLIANCE WITH DCA REQUIREMENTS	X	
DEPARTURE			41. COMPLIANCE WITH A/C LIMITATIONS	X	
7. STARTING PROCEDURE	X		42. COMPLIANCE WITH FLIGHT TIME LIMITATIONS	X	
8. TAXING	X		43. COMPLIANCE WITH OPERATIONS MANUAL	X	
9. CLEARANCE RECORD AND READ BACK	X		44. FLIGHT MANUAL AND ROUTE GUIDE CHECKED	X	
10. TAKE-OFF GROSS WEIGHT ( <b>247000 KGS</b> )	X		45. POSITION REPORTING AND WEATHER OBS.	X	
11. POWER CHECK	X		46. USE OF CHECK LISTS	X	
12. V <sub>1</sub> V <sub>R</sub> V <sub>2</sub> COMPLIANCE	X		47. USE OF RADIO FACILITIES	X	
13. TAKE-OFF CLIMB	X		48. KNOWLEDGE OF PERFORMANCE GRAPHS	X	
14. NOISE ABATEMENT PROCEDURE	NA		FLIGHT CREW—SYSTEMS (NORM. AND EMERG.)		
15. ADHERENCE TO CLEARANCE	X		49. AIR CONDITIONING	X	
EN ROUTE			50. ANTI-ICE AND DEICE	X	
16. USE OF AIRBORNE RADAR	X		51. ELECTRICAL	X	
17. FUEL HANDLING	X		52. FIRE PROTECTION	X	
18. APPRECIATION OF WEATHER SYSTEM	X		53. FUEL	X	
19. HANDLING OF ABNORMALITIES	NA		54. HYDRAULICS	X	
20. HANDLING OF EMERGENCIES	NA		55. PNEUMATICS	X	
21. AIRCRAFT DISCREPANCIES LOGGED	X		56. PRESSURISATION	X	
APPROACH AND LANDING			57. OXYGEN	X	
22. LANDING WEIGHT ( <b>153,000 kgs</b> )	X		CABIN CREW		
23. ADHERENCE TO CLEARANCE	X		58. CABIN STAFF PRE-FLIGHT	X	
24. APPROACH SPEEDS	X		59. PASSENGER BRIEFING	X	
25. LANDING TECHNIQUE	X		60. CABIN MANAGEMENT	X	
INSTRUMENT FLIGHT			61. FIRST AID AND EMERGENCY EQUIPMENT	X	
26. HEADING CONTROL	X		62. EMERGENCY PROCEDURES	X	
27. ALTITUDE CONTROL	X		AIRPORTS		
28. SPEED CONTROL	X		63. PUBLIC PROTECTION	X	
TYPE OF APPROACH			64. BRIEFING AND DEBRIEFING FACILITIES	X	
29. <input checked="" type="checkbox"/> ILS <input type="checkbox"/> PAR <input type="checkbox"/> VOR <input type="checkbox"/> NDB <input type="checkbox"/> OTHER	NA		65. AIR TRAFFIC CONTROL	X	
30. ADHERENCE TO HOLDING PROCEDURE	X		66. RUNWAYS AND TAXIWAYS	X	
31. ADHERENCE TO APPROACH PROCEDURE	X		67. LIGHTING	X	
32. ADHERENCE TO MINIMUM ALTITUDES	X		68. RADIO FACILITIES	X	
33. MISSED APPROACH	NA		69. MARSHALLING	X	
34. TRANSITION	X		70. REFUELLING PROCEDURES	X	

All items marked "UNSAT" must be amplified on reverse side—refer by number.  
All items not checked or not applicable must be marked "NA".

SIGNATURE OF INSPECTOR: <i>J. Spence</i>	CHECKED BY: <i>[Signature]</i>	ACTIONED: <i>[Signature]</i>	<b>FILE</b>
	<b>313/77</b>		<b>24/3/77</b>
			<i>Initials</i>

## DEFICIENCIES (Do not include any remarks to evaluate the flight and crew):

## FLIGHT:

A post-flight analysis of the flight plan indicates that the flight was carefully and accurately planned.

## DEPARTURE:

## ROUTE:

45 minutes spent over the McMurdo Sound area at FL160. Adequate fuel reserves on departure destination for depressurised return flight to Christchurch. Fuel over Christchurch sufficient for diversion to Auckland with statutory reserves.

## TAKOFF AND LANDING:

## INSTRUMENT FLIGHT:

Navigation procedures utilising compass switch in DG and using grid navigation well understood by flight crew. No problems whatsoever in navigation. Charting carried on the aircraft adequate for the flight.

## PILOT CREW:

Flight crew conservative and conscientious in the conduct of this flight.

## CABIN CREW:

6 additional cabin crew carried over the normal establishment for flight time limitations purposes. Rest facilities for cabin crew available on board.

## REPORTS:

No adverse radio propagation conditions experienced. Single side band used for communications with McMurdo, Christchurch and South Pole Station. Communications uniformly good throughout with exception of Campbell Island with whom no contact was established.

## ACTION RECOMMENDED:

## ACTION TAKEN:

The accuracy of navigation was established on the return flight when the NV DME and the inertial navigation system differed by only 3nm after a flight of over 3000nm without a radio update into the ANS.

Nil adverse comments. A well conducted flight in all respects. See attachments at rear.

## US FEDERAL AVIATION REGULATION 91.81

## §91.81 Altimeter settings

(a) Each person operating an aircraft shall maintain the cruising altitude or flight level of that aircraft, as the case may be, by reference to an altimeter that is set, when operating -

(1) Below 18,000 feet MSL, to -

(i) The current reported altimeter setting of a station along the route and within 100 nautical miles of the aircraft;

(ii) If there is no station within the area prescribed in subdivision (i) of this subparagraph, the current reported altimeter setting of an appropriate available station; or

(iii) In the case of an aircraft not equipped with a radio, the elevation of the departure airport or an appropriate altimeter setting available before departure; or

(2) At or above 18,000 feet MSL, to 29.92" Hg.

(b) The lowest usable flight level is determined by the atmospheric pressure in the area of operation, as shown in the following table :

Current altimeter setting	Lowest usable flight level
29.92 (or higher)	180
29.91 thru 29.42	185
29.41 thru 28.92	190
28.91 thru 28.42	195
28.41 thru 27.92	200
27.91 thru 27.42	205
27.41 thru 26.92	210

(c) To convert minimum altitude prescribed under §§91.79 and 91.119 to the minimum flight level, the pilot shall take the flight level equivalent of the minimum altitude in feet and add the appropriate number of feet specified below, according to the current reported altimeter setting :

Current altimeter setting	Adjustment factor
29.92 (or higher)	None
29.91 thru 29.42	500 feet
29.41 thru 28.92	1000 feet
28.91 thru 28.42	1500 feet
28.41 thru 27.92	2000 feet
27.91 thru 27.42	2500 feet
27.41 thru 26.92	3000 feet