REPORT OF OPERATION DEEP FREEZE 63

CTG 43.2 NAVAL AIR GROUP

AIR DEVELOPMENT SQUADRON SIX (VX-6)

COMMANDER W.H. EVERETT, USN

COMMANDING OFFICER

23 APRIL 1963

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TABLE OF CONTENTS

CHAPTER	SUBJECT	PAGES
I	INTRODUCTION	1 - 5
II	AIR OPERATIONS	6 - 29
	1. LC-130F 2. LP-2J 3. LH-34D 4. U-1B 5. LC-47/LC-117D 6. C-54Q 7. C-121J 8. FLIGHT HOURS SUMMARY	
III	DET AIRDEVRON SIX CHRISTCHURCH	30 - 33
IV	DET AIRDEVRON SIX QUONSET POINT	34 - 35
V	DET AIRDEVRON SIX BYRD	36 - 42
VI	PARA-RESCUE TEAM	43 - 44
VII	TRAVERSE AND FIELD PARTY SUPPORT	45 - 52
VIII	COMMUNICATIONS	53 - 55
IX	NAVIGATION	56 - 57
X	PHOTOGRAPHY	58 - 65
XI	MAINTENANCE	66 - 71
XII	SUPPLY	72 - 77
XIII	PUBLIC INFORMATION AND PUBLIC RELATIONS	78 - 81
XIV	MORALE AND RECREATION	82 - 83
XV	MEDICAL	84 - 94
XVI	DENTAL	95 - 97

APPENDICES

LC-130F CARGO AND PASSENGER DATA	APPENDIX I
CHART, UH-1B FLIGHT TO SOUTH POLE	APPENDIX II
TOPO WEST - TOPO EAST CHART	APPENDIX III
TOPO WEST DETAIL CHART	APPENDIX IV
TOPO EAST DETAIL CHART	APPENDIX V
DF63 TRIMETROGON AERIAL MAPPING COMMITMENTS	APPENDIX VI
DF63 TRIMETROGON AERIAL MAPPING COMPLETED	APPENDIX VII
DF63 SPECIAL MAPPING PHOTOGRAPHY COMMITMENTS	APPENDIX VIII
DF63 SPECIAL MAPPING PHOTOGRAPHY COMPLETED	APPENDIX IX

INTRODUCTION

1. This report covers the operations of Air Development Squadron SIX during Operation DEEP FREEZE 63. The period covered by the report is from 1 August 1962 to 11 April 1963.

2. During the DEEP FREEZE deployment, Air Development Squadron SIX comprised the major forces of the Naval Air Group (CTG 43.2) Commander William H. EVERETT, USN, Commanding, under the operational control of Commander TASK FORCE 43 (COMNAVSUPPFOR ANTARCTICA), Rear Admiral David M. TYREE, USN, Commander (later relieved by Rear Admiral James R. REEDY, USN).

3. The mission of the squadron is to provide logistic support for a continuing program of scientific research in the Antarctic. This mission includes the following tasks:

a. Aerial logistic support of trail parties.

b. Aerial logistic support of the inland stations.

c. Aerial reconnaissance and photography.

d. Search and rescue:

(1) For the Antarctic continent

(2) For the contiguous sea/ice area, south of 60° south latitude.

4. To accomplish this diversified mission, eighteen (18) aircraft of eight (8) different types were employed. Data set forth below indicates the configuration and primary utilization of these aircraft:

Type	Configuration	Primary Utilization
LC-130F	Ski equipped	Heavy logistic support
C-121J		Cargo/personnel transport, CONUS-New Zeland-McMurdo
C-54Q	SAR Albedo equipment	SAR, light logistic support, ALBEDO program
LP-2J	Ski equipped Trimetrogon photo configuration	Long-range aerial reconnaissance and photography
LC-47D	Ski equipped Long range tanks	Field party and traverse support
LC-117D	Ski equipped Long range tanks	Field party and traverse support
LH-34D	(Helicopter)	Local scientific field party support
U-1B	Ski equipped	Local scientific field party support

5. Set forth below is a brief chronological summary of operations during DEEP FREEZE 63: (All times and dates are Greenwich Civil)

AUGUST 1962

1 AUG	AirDevRon SIX reported to COMNAVSUPFOR ANTARCTICA (CTF 43) for operational control
242030Z	C-121J departed Quonset Point
251459Z	C-121J departed NAF Andrews with RADM TYREE & staff
252000Z	Established DET AirDevRon SIX Christchurch (TU 43.2.1)
292300Z	C-121J arrived Christchurch with RADM TYREE & staff

SEPTEMBER

030010Z	C-121J departed Christchurch for CONUS
051305Z	LC-117D departed Quonset Point
070945Z	C-121J arrived Quonset Point
071251Z	LC-130Fs departed Quonset Point
110118Z	LC-130Fs arrived Christchurch

SEPTEMBER (Cont'd)

151318Z	First aircraft departed Christchurch for McMurdo
152145Z	First aircraft arrived McMurdo
202030Z	C-121J departed Quonset Point
210009Z	C-121J departed NAF Andrews with RADM REEDY & party
260200Z	C-121J arrived Christchurch with RADM REEDY & party

OCTOBER

012001Z	Established DET AirDevRon SIX Quonset Point (TU 43.2.4)
6 OCT	Opened Beardmore
8 OCT	Opened Little Rockford
102340Z	Opened Hallett Station
112000Z	VX-6 wintering-over detachment departed McMurdo
170430Z	First aircraft arrived Byrd Station
270400Z	Established DET AirDevRon SIX Byrd Station (TU 43.2.3)
28 OCT	TOPO WEST aircraft departed McMurdo for Hallett Station

NOVEMBER

012325Z	LC-117D landed Eights Station
041740Z	First aircraft arrived Pole Station
9 NOV	LC-130F 148319 departed Christchurch for Marietta, Ga. for emergency repair
221715Z	LC-117D BUNO 17188 crashed on landing in Sentinel Mountains
222150Z	LH-34D BUNO 145719 crashed on landing in Wright Dry Valley
250229Z	LC-47J BUNO 50777 crashed on takeoff at Davis Glacier
25 NOV	LC-130F 148319 arrived Christchurch after emergency repair in CONUS
28 NOV	TOPO WEST aircraft arrived McMurdo - project completed

DECEMBER	
1 DEC	LC-130F 148321 departed Christchurch for Marietta, Ga. for emergency repair
10 DEC	LC-130F 148320 departed Christchurch for Marietta, Ga. for emergency repair
17 DEC	TOPO EAST aircraft departed McMurdo for Beardmore
18 DEC	LC-130F 148321 arrived Christchurch after emergency repair in CONUS
23 DEC	LH-34D BUNO 144658 burned on lower Helo pad at McMurdo
24 DEC	LC-130F 148320 arrived Christchurch after emergency repair in CONUS
24 DEC	LC-130F 148318 departed Christchurch for Maretta, Ga. for emergency repair
27 DEC	First DEEP FREEZE 63 cargo received from ship. Heavy logistic support of inland stations initiated
JANUARY 1963	
6 JAN	LC-130F 148318 arrived Christchurch after emergency repair in CONUS
24 JAN	TOPO EAST completed
FEBRUARY	
040930Z	Army HU-1B helos arrived South Pole
151325Z	Last LC-130F departed Eights Station
16 FEB	Disestablished DET AirDevRon SIX Byrd Station (TU 43.2.3)
161015Z	Last LC-130F departed South Pole
MARCH	
010001Z	Established DET ALFA AirDevRon SIX McMurdo
012343Z	Last LC-130F departed Byrd Station
031945Z	Last LC-130F departed McMurdo
060015Z	Last LC-130F departed Christchurch
061402Z	LP-2J 140437 arrived Quonset Point
081930Z	3 LC-130Fs arrived Quonset Point
090900Z	C-54Q departed Christchurch

MARCH (Cont'd)

092220Z	Last LC-130F arrived Quonset Point
120436Z	LP-2J 140436 arrived NAS Alameda to go into overhaul
132132Z	C-54Q arrived Quonset Point
15 MAR	AirDevRon SIX reported to COMFAIRQUONSET for operational control

APRIL

010001Z	Established DET BRAVO AirDevRon SIX Christchurch
111430Z	C-121J arrived NAF Andrews with RADM REEDY & staff
111745Z	C-121J arrived Quonset Point, last aircraft to be redeployed in DEEP FREEZE 63

II

AIR OPERATIONS

1. LC-130F Flight Operations.

a. General. Due to the unique operational requirements for continuous operations while deployed and the obvious infeasibility of conducting training in the Antarctic, Air Development Squadron SIX does not operate on a "level readiness" concept. Therefore, during the redeployment phase, intensive flight and ground training must be conducted.

b. Training. Ground school and simulator training for LC-130F pilots and flight mechanics was obtained at the 442nd School Squadron, Sewart AFB; ground school for other flight crew-members and maintenance personnel was obtained at Sewart AFB and at Allison engine service school. Flight training for pilots, flight mechanics and flight crew-members was conducted by the squadron at NAS Quonset Point. Advanced ground school and on-the-job training was also conducted by the squadron, utilizing the Lockheed technical representatives. The major problem encountered was the need to accelerate pilot/flight mechanic flight training; 90% of this training had to be accomplished in August, due to the following conditions:

(1) Inadequate aircraft time available for training prior to PAR inductions.

(2) Late receipt of replacement personnel.

However, by the time deployment was initiated, sufficient personnel had been trained to provide double crews for these aircraft.

(3) Steps have been taken to provide ground school, simulator and flight training at Sewart AFB for pilots and flight mechanics. This training will normally be conducted prior to the time personnel report to the squadron; quotas have been obtained on a schedule which will provide these

trained replacement personnel to the squadron in March, April, and May, thus precluding the necessity for a heavy training schedule just prior to deployment.

c. Deployment/Redeployment.

(1) The four LC-130F aircraft were launched from NAS Quonset Point, at thirty minute intervals, on 7 September 1962. All aircraft arrived without incident at Harewood Airport, Christchurch, New Zealand on 11 September. The flight route was planned to provide crew rest at NAS Alameda and Hickam AFB, with subsequent fuel stops at Canton Island and Nandi, Fiji Islands.

(2) Despite a twenty-four hour delay due to adverse winds enroute, the earliest "fly-in" in the history of Antarctic operations was accomplished when LC-130F BuNo 148321 with Rear Admiral David M. TYREE, USN, (CTF-43) on board, landed on the skiway at New Williams Field, McMurdo at 2145Z 15 September 1962. The other three aircraft landed at McMurdo soon after. Two aircraft returned to Christchurch the next day to continue the flight training program, and two remained at McMurdo to transport the personnel and necessary supplies to open weather stations at Beardmore and Little Rockford. Several flights were conducted to these two locations, but the stations were not opened on schedule, due to various equipment failures/deficiencies.

(3) Final redeployment of the last two LC-130Fs was delayed, due to the requirement to "air-evac" a seriously ill seaman from McMurdo to Christchurch after the USS GLACIER had made a voyage to the other side of the continent to transfer this man from a resupply ship. The last aircraft departed McMurdo on 4 March 1963, thus completing the longest deployment in DEEP-FREEZE history. On 6 March, the four aircraft departed Christchurch for CONUS, via the same route used for deployment. Three aircraft landed at NAS Quonset Point on 8 March 1963. The last LC-130F

was delayed at Nandi, Fiji Islands due to a leaking nose ski strut; upon receipt of parts, the trouble was rectified and this aircraft proceeded most expeditiously, arriving at NAS Quonset Point on 9 March 1963.

d. Ice Operations.

(1) General. Air operations began after the Beardmore and Little Rockford weather stations were opened during the first week of October. The usual hydraulic leaks were experienced during this period, due to the extremely low temperatures encountered, and several windscreens were cracked as the various oleos lost fluid and produced twisting moments on the fuselage while the aircraft were parked at McMurdo. New Williams Field preparation was not entirely satisfactory, and 98% of the LC-130F flights utilized the adjacent skiway. GCA installations at Byrd Station and New and Old Williams Field provided facilities for what became essentially an "all weather" operation, when continuous daylight became available. TACAN at Byrd Station, Pole Station, and New Williams Field proved to be a valuable aid. Lack of adequate weather data upon which to base reliable forecasts, and lack of any reliable navigational aid, contributed hindrance to the Eights Station operation, although the mission was completed in time to winter-over the party as planned. The most serious problems of this season were:

(a) Late arrival of ships with cargo for the inland stations.

(b) Serious deficiencies in ground handling equipment required to load the aircraft and facilitate servicing.

(2) Commitments vs Performance. Set forth below is a comparison of the airlift requirements promulgated by COMNAVSUPPFOR ANTARCTICA NOTICE 4400 of 17 October 1962 and the actual missions flown and tonnage hauled. As the season progressed, it was found necessary to increase most of the commitments, and some airlift was transferred to other types

of aircraft, in order to best utilize the capabilities of the LC-130F. This data does not include any backloading of supplies, equipment, or personnel.

Station	Missions Planned	Tonnage Planned Including Pass.	Missions Flown	Tonnage Flown Incl. Passengers
Pole	65	673	107	1244.79
Byrd	183	1986	195	2073.79
Byrd Auroral Sub Station	0	0	3	31.14
Eights	32	145	40	306.31
Little Rockford	5	50	7	41.86
Beardmore	5	50	5½	73.37
Hallet	0	0	1	8.48
Polar Plateau (Note #1)	4	35	0	0.0
Roosevelt Island	2	20	0	0.0
Ellsworth(Sentinel) Mountains	2	20	5	31.80
VIF Traverse (Note #2)	2	5	0	0.0
Ice Movement	1	10	0	0.0
TOPO WEST (Hallet)	0	0	5	64.75
TOPO EAST (Beardmore)	5	60	7	68.50
TOPO EAST (Horlick Mountains)	5	52	3½	31.48
Pensacola Mountains	3	20	3	13.43
TOTALS	314	3126	382	3989.70

Note #1: Emergency only

Note #2: Cancelled

Another analysis of airlift, indicating passengers and cargo hauled:

within Antarctica, between Christchurch and McMurdo and between Christchurch and CONUS, with additional backload data, is included in the appendicies.

(3) Standard Operating Procedures.

(a) With the installation of GCA at Byrd Station and New Williams Field, GCA minimums of 100 ft. ceiling/one half mile visibility were established for these two stations. GCA operations were highly satisfactory. Standard VFR minimums were established for the other landing sites utilized.

(b) Every attempt was made to avoid in-flight temperatures below -60 degrees C.

(c) The below listed fuel loads were established, and, in most cases, provided a two-hour holding reserve at the terminal:

Byrd Station	34,000 lbs.
Pole Station	32,000 lbs.
Eights Station	41,000 lbs. *
Christchurch	45,000 lbs.

* Refuelling stop required at Byrd Station. A few trips to Eights, without refuelling stops were made to test this procedure, but it was determined that this is feasible only when most advantageous enroute winds are available; lack of adequate upper air data on this route precluded regular operations of this nature.

(d) Ski-actuator heater-blankets were utilized on all early season and late season flights, when extreme enroute temperatures were encountered.

(e) Pre-heating of prop domes and careful exercising of prop controls was conducted whenever ground temperatures of -20F or colder were experienced.

(f) Maximum gross weight take-offs on skis were conducted as a routine operation at New Williams Field Skiway, due to the condition of the ice runway.

(4) Special Projects.

(a) A special blend of hydraulic fluid was tested during this season. Further studies of this fluid will be required during DEEP FREEZE '64.

(b) Lockheed designed an electric heater blanket for the ski-actuator cylinders; these were installed and tested on all four aircraft. Although some early season failures of the heating elements were experienced, the installation is deemed desirable.

(c) Two aircraft were configured for bulk fuel transport; the internal fuselage tanks, similar to those used in the GV-1, could also be used for auxiliary fuel for the aircraft. Although only one flight was assigned to test the bulk fuel transport system, it proved successful and this method is deemed feasible.

(d) An LC-130F was tested as a drop aircraft for the Para-Rescue team. The practice exercise, conducted over RNZAF Base Wigram, proved highly successful.

(e) On 22 February 1963, the longest non-stop flight ever attempted in Antarctica was successfully completed. This flight, programmed for approximately 3,600 miles, tested the feasibility of the internal fuselage tank to extend the aircraft range, and surveyed areas of the Antarctic Continent which had never before been viewed. Flight route was from McMurdo to the South Pole, down the Greenwich Meridian to a point from which peaks on the Princess Martha Coast were visible, thence over the Point of Maximum Inaccesibility and return to McMurdo.

(f) Twelve pre-fabricated units, including one power van,

were airlifted to Eights Station, thus precluding any major construction during establishment of this station. Pre-deployment planning, plus a trip to the construction point, insured the feasibility of this task, although only minimum clearances of four to eight inches were provided between the exterior of the units and the interior of the cargo compartment. Extreme care during loading/unloading operations was successful in eliminating any damage to either the units or the aircraft.

(g) TACAN and GCA units were airlifted to Byrd Station without incident, although the heavier weight of these large units made handling procedures most difficult.

(h) The necessity of an engine change for an LC-47 aircraft at Beardmore presented serious problems, due to the deep snow and lack of any facilities. This problem was solved by transporting a D-4 LGP tractor to Beardmore, and then returning it to McMurdo upon completion of the engine change.

(i) Upon completion of the TOPO WEST and TOPO EAST topographical surveys, plans were made for the three UH-1B Army helicopters to make a flight from the Mt. Weaver area to the South Pole, to test the operations of this aircraft on extended flights at altitudes in excess of 9,000 ft. and under the sub zero temperatures of Antarctica. One LC-130F was assigned to monitor the flight, provide communications linkage, furnish navigational data enroute and for use as a SAR aircraft. The flight was completed without incident on 4 February 1963. Included in the Appendices is a chart of the route covered.

(5) COMMENTS.

(a) The squadron was confronted with an unexpected problem when the LC-130F landing gear brackets failed, apparently due to the acceleration of fatigue, due to the heavy ski operations. In turn, each

aircraft was ferried to the Lockheed facilities at Marietta, Georgia, where repairs were effected. Maximum utilization of the remaining aircraft prevented this trouble from adversely affecting the operation.

(b) The late arrival of the cargo ships, due to the inordinately heavy ice encountered, presented a serious problem, since it drastically reduced the time available in which to resupply the inland stations. An all-out effort was mounted in order to accomplish the revised commitments, and all re-supply was delivered. During one month, January 1963, over 1600 tons were delivered.

(6) LC-130F CARGO LOADING REPORT

(a) Initially VX-6 was committed to airlift 3,186 tons of cargo to outlying Antarctic Stations, utilizing the 314 LC-130F flights to accomplish this task. Revised POL and construction requirements at Eights, New Byrd, and South Pole Stations necessitated additional flights. Total cargo airlifted was 3,829 tons with 382 flights. This does not include the weight of passengers; total tonnage (cargo and passengers) airlifted totalled 3,990 tons to inland stations.

(b) In view of the task, the LC-130F Cargo Division was supplemented with sixteen seamen assigned as loading crews. These loading crews worked two-twelve hour shifts daily, pre-loading cargo sleds, loading and off-loading aircraft, and occasionally performing minor maintenance on loading equipment. Four of these men were qualified loading equipment operators, and were utilized as such during the main portion of the season. A cargo segregation area was established near New Williams Field where incoming cargo was placed to await priorities to be assigned, and shipment to outlying stations. Priorities were assigned by the ASA Cargo Division who selected cargo, cut manifests, and supplied VX-6 cargo with needed information to pre-load cargo sleds.

(c) Many cargo loading problems encountered during DEEP FREEZE '61 and '62 were again encountered during DEEP FREEZE '63. Records and statistics were maintained on specific areas which were considered of importance to effect efficient operation of LC-130F aircraft. Comments are listed as follows:

1. AIRCRAFT LOADING EQUIPMENT. It was previously requested that a minimum of two LGP traxcavators, and one D-4 with blade be made available to the VX-6 Cargo Division. Equipment available and operational did not permit this. During the initial weeks of ice operation, one traxcavator (in need of repair) was made available for cargo loading, and on many occasions this traxcavator was diverted to carry snow for the strip water supply. During the month of October, 27 flights were delayed 450 hours due to the non-availability of equipment. Flights delayed for the season due to equipment non-availability totalled 143. However, due to the large amount of POL carried, which requires minimum equipment to pre-load, the squadron was able to complete and surpass all scheduled commitments, despite this handicap.

2. PASSENGER SCHEDULING. It was requested that VX-6 cargo be furnished with passenger information a minimum of twelve hours prior to scheduled take-off times to provide adequate time to select cargo, pre-load cargo sleds, and load aircraft to maximum gross weight. Normally ASA Strip Cargo would receive passenger information and manifests from ASA Supply, and in turn provide VX-6 cargo with required information. However, on many occasions, VX-6 cargo received inaccurate passenger information and manifests, or the number of passengers scheduled would be increased just prior to take-off time; this necessitates the off-loading of cargo to prevent over-gross take-off weights. This caused many delays, and on several occasions, the entire cargo load had to be removed from the aircraft, and a complete new load selected which was compatible with the

passenger change. Due to the various sizes of boxed cargo that was readily available, many of these flights departed with under-gross take-off weights.

e. Conclusions. It is increasingly obvious that the limitations on the LC-130F program are not the aircraft and operating personnel, but rather are the support functions (timely availability of cargo to be hauled, continuous availability of JP-4, adequacy of cargo processing personnel and cargo handling equipment); of course these functions must be accompanied by reasonable operational weather and reliable communications. If a favorable balance of these factors is obtained, then:

(1) Each LC-130F aircraft can be programmed for approximately 700 hours utilization in support of inland stations and for field/traverse support.

(2) Tonnage to be hauled is entirely dependent on the type of operation conducted, but each aircraft can be programmed for 900-1100 tons/season.

f. Recommendations.

(1) Continue to program replacement pilots/flight mechanics to Sewart AFB for training (including flight training) and thence to the squadron shortly after redeployment is completed.

(2) Insure all equipment required to open weather stations is given an operational check prior to being transported into the field.

(3) Install GCA at Eights.

(4) Install UHF beacons at Little Rockford and Beardmore to facilitate navigation and furnish air/ground communications.

(5) Continue the use of ski-actuator heater blankets.

(6) Continue evaluation of the special hydraulic fluid.

(7) Avoid in-flight temperatures below -60°C whenever possible.

(8) Continue the procedure of conducting loading/unloading exercises in CONUS of any exceptionally large or heavy items.

(9) Commence full-scale operations after 15 October. Low ground temperatures encountered prior to that date adversely affect efficient operation of cargo loading and equipment.

(10) Assign the VX-6 Cargo Division two LGP traxcavators, one D-4 tractor with blade, and ten ten-ton sleds.

(11) Assign four equipment operators to the VX-6 Cargo Division, to operate and maintain assigned equipment.

(12) Operate the passenger terminal on a 24 hour basis.

(13) Install adequate communications systems to link ASA Cargo, VX-6 Cargo and the passenger terminal.

(14) Establish a "cut-off" for passenger manifesting, 12 hours in advance of take-off times, to facilitate better cargo/load planning.

(15) Insure ASA Cargo is manned with at least four Storekeepers and an adequate number of support cargo handlers to assign priorities, manifest cargo and handle incoming sled teams and aircraft.

2. LP-2J Flight Operations.

a. General. The LP-2J aircraft were again utilized to obtain aerial photography of the Antarctic Continent, with a secondary mission of search and rescue duty. The photographic commitments included requirements for both trimetrogon and vertical aerial mosaic methods of photographic mapping and also for aerial reconnaissance photography.

b. Training. With the large turn-over of personnel each year and the short training period, it is imperative that training begin as soon as possible after redeployment is completed. The training includes extensive formal classroom study and practical work in the use of cameras and application of proper photographic procedures and methods. Included

in the training program was a seminar covering trimetrogon mapping which was conducted at the Branch of Special Maps, U.S. Geological Survey, Washington, D.C.. This seminar was of several days duration; photo techniques and procedures were discussed and the crew members were given an opportunity to see how the photos are processed for map production. This seminar was attended by pilots, navigators, aircrew technicians and photographers mates concerned. In addition, a trip to Quonset Point was made by a representative of the U.S. Geological Survey to review and discuss the commitments for Deepfreeze '63. USGS personnel constructed flight packets for each area; these proved invaluable for navigation of the flight lines as they provided visual reference points along the flight line, thus making a major contribution to the task. Additionally, aircrew training was conducted by squadron instructors, combined with a detailed cold weather survival program. Included in the training is the low pressure chamber, which simulates high altitude flight, as most photography is shot at 25,000 feet.

c. Deployment/Redeployment. The first LP-2J departed NAS Quonset Point on 8 September 1962, and arrived at Harewood Airport, Christchurch, N. Z. on 18 September; the second aircraft arrived approximately one week later. The flight route included one crew rest stop enroute to NAS Alameda, with subsequent stops at Hickam, AFB, Canton Island, and Nandi. For redeployment, the LP-2J aircraft were launched from Christchurch at thirty-minute intervals, and provided mutual SAR/Communications support as far as Hawaii. On takeoff from NAS Barbers Point, one aircraft experienced engine failure and was delayed for an engine change. The other aircraft proceeded independently, arriving at NAS Quonset Point on 6 March 1963. Upon completion of the engine change, the second LP-2J was flown to NAS Alameda and inducted into PAR on 12 March 1963.

d. Photo reconnaissance Operations.

(1) General. Detailed reporting of photographic accomplishments are discussed in Chapter X. The largest single area photographed was the Victoria Range (M-4); the second largest area was the Queen Maude Range (M-3). By far the most difficult task was the photography in the Pensacola Mountain Range, due to its remote location and the lack of valid weather observations.

(2) Problem areas. The most serious problems encountered were lack of weather information in the areas to be photographed, the ever-present extremely low temperatures encountered on the photo runs, and the malfunctions of the cameras. Special efforts were expended during the pre-deployment period to insure all cameras were winterized and repaired. This work was conducted at NAS Norfolk; however, the performance of these cameras was unsatisfactory; over fifty hours of flight lines flown were a complete loss due to camera malfunctions.

e. Special Flights. The following special flights were flown:

(1) Search and rescue and communications link for the LC-117D landing accident in the Sentinel Mts.

(2) Search and rescue for the Ross Ice Shelf Traverse party, when communications schedule was temporarily disrupted.

(3) Special reconnaissance flight from Byrd to Eight Station, to provide data for the Byrd-Eights Station Traverse.

(4) Ice reconnaissance flights from McMurdo to Franklin Island.

f. Statistics. Statistics concerning the photographic accomplishments are set forth in Chapter X, additional statistics are as follows:

Hours Flown	549
Flight Line Miles Flown	10,448
Fuel Consumed (gals)	203,870
JATO Expended	428

g. Comments and recommendations. Comments concerning the limitations of the LP-2J for photo-reconnaissance in Antarctica are contained in Chapter X; the statement set forth below, concerning aircraft, are based on the lack of a suitable replacement.

(1) It is recommended that fuel flow indicators for the jet engines be installed in the LP-2J, these indicators would provide accurate information on fuel consumption, while utilizing the jets at altitude to preclude the necessity of extremely high power settings on the reciprocating engines.

(2) Insure all pilots are briefed on photo areas, and request that all flights over these areas forward periodic weather reports. This information is most helpful in elimating flights which are aborted due to weather in the photo area.

(3) Recommend that all cameras be tested in a "cold weather cell" when Antarctic environment can be simulated, prior to deployment.

(4) Continue the practice of preparing flight packets for photo-recon missions.

(5) The efforts of Mr. W. McDonald of USGS were of great assistance in the accomplishement of this year's photographic tasks. He not only compiled the flight packets and evaluated film shot, but continually re-evaluated the program and realigned priorities to provide beneficial guidance.

(6) Launch all New Zealand - McMurdo flights from Invercargill to reduce the distance of these flights.

3. LH-34D Flight Operations.

a. General. Helicopter support during DeepFreeze '63 proved to be varied, once more proving the versatility of this aircraft. Tasks assigned included:

(1) Utility flights into heretofore inaccessible areas providing support to the scientific studies of the U.S. Antarctic Reasarch Program.

(2) Local flights for members of the press and guests of the Navy aiding in establishing a sound understanding of the mission of the Navy in the exploration of the Antarctic.

(3) Ice reconnaissance flights.

(4) SAR flights.

(5) Weather probes in the McMurdo area.

(6) Local photographic flights.

(7) Fuel line reconnaisance flights.

(8) Field support to the TOPO EAST Traverse when the LC-47 logistic support aircraft was delayed for an engine change.

(9) Miscellaneous utility flights between McMurdo and New/Old Williams Field transporting cargo and personnel.

(10) Emergency transport of Arctic Diesel from Marble Point to McMurdo.

b. Training. Qualified helicopter pilot replacements reported to the squadron in April, May and June. Training was slightly hampered because the aircraft loaned for training did not have a cargo hoist installed.

c. Antarctic Operations. As previously stated, the tasks assigned were many and varied. Aircraft availability was excellent, and all support functions were completed even with the loss of two helicopters during the season. Preheating was required throughout the season. Since these aircraft were operated in areas where other aircraft could not land,

operations were conducted so that mutual SAR support was provided.

(1) Pertinent statistics are as follows:

Mission Hours Flown		730
Misc. Hours Flown		110
Total Hours Flown		840
Passengers carried		2173
USARP & N.Z.	664	
US military, press and guests	1509	
Cargo hauled (tons)		115
USARP	55	
Military	60	

d. Facilities.

(1) Although construction of the second hangar was not initiated, the two operating helicopters were satisfactorily maintained in existing facilities.

(2) However, the existing heliport leaves much to be desired, and is in fact considered unsafe for the following reasons:

(a) Inadequate size to handle helicopter traffic in the McMurdo area, which sometimes includes helicopters from ships, and the Army's UH1B's.

(b) Approach path into the prevailing wind is over difficult terrain, bay ice, and at times open water. It is doubtful if a successful forced landing could be executed, in the approach area.

(c) Into-the-wind takeoffs cannot be executed approximately fifty percent of the time. The alternative is an immediate turn down wind which subsequently places the helicopter 50-75 feet above terrain (a deep gully) and makes the safe exection of an emergency landing highly improbable.

e. Comments and recommendations.

(1) While the LH-34D accomplished all assigned tasks, replacement with a turbine-powered rotorcraft is recommended. Such an aircraft would offer greater capabilities for carrying cargo, operation at higher altitudes

and at extended ranges, would eliminate the necessity for lengthy pre-heating.

(2) Investigate the feasibility of relocating the heliport to an area with more desirable operational characteristics.

4. U-1B Flight Operations.

a. General. This is a single engine, short range aircraft with a limited lift capability, however, it performed the following tasks:

(1) Limited field support for the TOPO EAST Traverse when the IC-47 logistic support aircraft was delayed for an engine change.

(2) Photographic flights in the McMurdo area.

(3) Support flights for Seal studies conducted by New Zealand.

(4) Flight checks of navigational aids.

(5) Training flights for the Para-Rescue Team.

(6) Support flights for the magnetometer studies.

(7) Flights made in support of the Penguin study project.

b. Training. One officer was specifically charged with the operation of these aircraft; several other pilots were "cross-qualified" at NAS Quonset Point and given ski check-outs at McMurdo.

c. Antarctic Operations.

(1) Two aircraft, were flown during this season; the others were in storage, transit and/or overhaul.

(2) Operating statistics are as follows:

Mission Hours Flown	242
Training Hours Flown	95
No. of mission flights	107
Passengers carried	158
Cargo hauled (tons)	29.5
POL 3.07	
Other 26.43	

d. Comments and Recommendations. This aircraft does have the following advantages: low landing speed, short takeoff/landing capability and ease of

maintenance. These characteristics enable it to perform many short range tasks which would otherwise have to be performed by the IH-34D or IC-47. If tasks of this type are to be a part of future operations, it is recommended that this aircraft be retained and so utilized. It is noted that one U-1B is now equipped for small JATO; if this aircraft is to be continued in Antarctic operations, it is recommended that the appropriate JATO be procured in order to improve takeoff characteristics.

5. LC-47/LC-117D Flight Operations.

a. General. This aircraft remains the best available for medium-range logistic support/utility work in the Antarctic. Among the tasks assigned were the following:

(a) Logistic support of outlying stations, and field parties.

(b) Development of unexplored areas, including the preparation of advance Stations and ski-ways for LC-130F operations.

(c) Search and Rescue

(d) Establishment of remote, Automatic Weather Stations.

(e) Weather probes of photo areas

(f) Photographic coverage for traverse/field parties and ice reconnaissance.

b. Training. Throughout most of the redeployment phase, training was conducted in an aircraft loaned for that purpose. This precluded training in aircraft with skis attached and in JATO techniques, until receipt of assigned aircraft from the overhaul facility.

c. Deployment/Redeployment. One LC-117D and four LC-47H/J aircraft were received from CONUS overhaul facilities and all were successfully ferried to McMurdo, via NAS Alameda, Hickam AFB, Canton Island and Nandi. To reduce the distance of the flight, all aircraft were launched from Invercargill for McMurdo. No aircraft of this type were redeployed, as none required overhaul this year.

d. Antarctic Operations.

(1) Although this aircraft is rugged, dependable and easy to maintain, these very characteristics lead to its assignment to the majority of open snow operation. Consequently it is the aircraft most often damaged in operational accidents in the Antarctic. Also, since replacment aircraft can be obtained only from the "moth-ball" reserve, these replacements are usually over-age aircraft with up to twenty years of previous service and thousand of hours on their airframes. Two aircraft were declared "strikes" this season; one as the result of a landing accident wherein a ski structure failed, and the other during a JATO take-off.

(2) The configuration for Antarctic operations requires the installation of skis. With skis installed, the additional weight and drag make single-engine operation extremely critical.

(3) Statistics for this aircraft are as follows:

Mission Hours flown	791
Training/Misc. Hours flown	528
Total hours flown	1319
Passengers carried	452
Cargo hauled (tons)	158.58

e. Comments and recommendations.

(1) Continue the weight reduction program to preclude over-grossing these aircraft. Utilize additional trips as necessary for high lift requirements.

(2) Although most pilots prefer the LC-47 aircraft to the LC-117D due to its lower landing speeds and apparently more rugged landing gear, it is recommended that at least one LC-117D be contined in the program because of its greater range, speed and cargo capacity.

(3) Launch all New Zealand McMurdo flights from Invercargill or Dunedin, to reduce the distance to be flown.

(4) It is recommended that a turbine powered light-to-medium weight transport be obtained as a replacement aircraft, in view of the tasks to be performed, it is further recommended that the replacement aircraft have structural/landing gear strength similar to that specified for carrier aircraft.

6. C54Q Flight Operations.

a. General. The mission assigned to the C54Q while based at Christchurch, New Zealand was to provide search and rescue coverage between New Zealand and 60 degrees south latitude. Further tasks included aerial logistic support to Commander Naval Support Forces Antarctica by flying mail and cargo to McMurdo and various destination in New Zealand and to CONUS upon redeployment. While based at McMurdo during the period 21 October to 23 November, this aircraft was assigned three responsibilities; SAR, Hallett Station resupply, and flight support of the U.S. Weather Bureau Albedo (reflectivity of solar radiation) Program.

b. Accomplishments. Over nine thousand nautical miles were flown in ten flights over the area of the Ross Sea in support of the Albedo study. The Albedo work included aerial photography of the ice cover and measurement of incoming and reflected solar radiation to determine the amount of energy absorbed by the extensive belt of sea ice around Antarctica.

(1) The C-54Q, while based at Christchurch, made one "turn-around" flight to McMurdo to deliver parts for a LC-130. Thirty-one flights were flown in the New Zealand area to transport mail, personnel and cargo. These flights included local utility flights for photographic purposes, training of para-rescue crews and proficiency training for GCA ground crewmen.

(2) Upon departure of two U.S. Air Force C54 Rescuemasters from Christchurch on 14 December 1962, the C-54Q assumed SAR responsibility for

the area between New Zealand and 60 degrees south latitude. From 14 December 1962 to 4 March 1963, the aircraft was in ready alert status for a total of two hundred forty - one hours and guarded fifty-two flights on the New Zealand - Antarctic route. On 27 January 1963, the C121-J requested a precautionary intercept after having secured number four engine in the vicinity of 63 degrees south latitude and reversing course to return to Christchurch. An intercept under instrument conditions was accomplished at 51-44 degrees south and escort was provided to Christchurch where landing was made without further incident.

c. Problems.

(1) The condition of the ice runway and limited ramp space at New Williams Field caused a delay. The field conditions were improved in late October and the C-54Q arrived at McMurdo 21 October 1962.

d. Operational Statistics are as follows:

Total Hours Flown	341
Cargo hauled (tons)	731
Passengers carried	305
JATO expended	54

7. C121-J Flight Operations.

a. DEEPFREEZE 63 officially commenced on 25 August 1962, with the departure of the AirDevRon SIX (VX-6) C-121J from Washington, D.C., With Rear Admiral David M. Tyree, USN (CTF43) and party aboard. The aircraft arrived at Harewood Airport, Christchurch, N. Z. 30 August 1962 after a routine flight via NAS Alameda, Hickam AFB, Canton Island and Nandi Airport, Fiji. A special flight was accomplished to Nandi, Fiji and return for the pick-up of VX-6 personnel that were stranded when a MATS C-118 was down for parts prior to the scheduled CONUS turn-around in September. Rear Admiral Reedy, USN and party were aboard on the return flight from Washington, D.C. arriving at Christchurch on 26 September 1962. Flights from Christchurch to McMurdo

commenced on 8 October 1962 and terminated 27 Feburary 1963. The aircraft was flown 794.1 hours during deployment (summer support season) averaging 113.4 hours per month, exclusive of time spent in the P/R maintenance cycle performed at LAS IDIEWILD, New York during December '62 and January '63. This aircraft performed the last flight of Deep Freeze '63 when it transported Rear Admiral James R. Reedy, USN (CTF43) and party from Christchurch to Andrews AFB and thence proceeded to NAS Quonset Point, arriving 11 April 1963.

b. Statistics. The following statistical information is provided for easy reference of C-121J accomplishment during Deep Freeze '63.

(1) Missions (Round Trips)

Number	Place
3	Quonset Point - Christchurch
23	Christchurch - McMurdo
3	Wellington - Christchurch
1	Auckland - Christchurch
1	Nandi, Fiji - Christchurch
1	Australia - Christchurch

(2) Ice Trips (8 October 1962 - 27 February 1963).

	Christchurch to McMurdo	McMurdo to Christchurch
Trips	23	23
PAX Carried	746	797
Mail	35,733	8,400
Cargo	177,283	8,582
Miles Flown	48,185	48,185
Flight Hours	256.1	225.5

(3) Load Totals (24 August 1962 - 11 April 1963)

Passengers	Mail	Cargo	Flt Hours	Miles Flown
2,046	59,903	219,933	794.1	162,816

c. Comments and Recommendations.

(1) As evidenced in the statistical portion of this report, this aircraft and assigned flight crew made a major contribution to the logistic support of Task Force 43 during Deep Freeze 63. The crew accomplished all

flight operations, conducted maintenance and periodic maintenances inspections, serviced, loaded and unloaded the aircraft. Supplemental assistance, when required, was provided by the Christchurch Detachment.

(2) The average McMurdo turnaround for the enlisted personnel assigned requires over 30 hours crew duty time. It is strongly recommended a minimum of 48 hours between arrival Christchurch and departure on next trip be allowed for proper crew rest and maintenance.

(3) Only one engine failure was experienced. This engine had accrued 880 hours at time of failure. In view of the highly satisfactory results obtained in prolonging engine life of the R-3350-34 to the full cycle of 1400 hours, it is recommended low blower operation be continued whenever practicable. It is further recommended that consideration be given to obtaining the R-3350-42 engine. Since the C-121J normally flies at, or very close to, a gross weight of 145,000 lbs, the added horsepower would be a definite asset to the operation.

(4) The "Air Plankton Receiver" was again installed this year prior to departure from NAS Quonset Point. The assigned Entomologist, Mr. Eugene Holzapfel, from Bishop Museum, Hawaii, was aboard for all trips and operated the trap. Positions, temperature, wind direction and velocity were furnished him approximately every 30 minutes in flight.

(5) The squadron obtained this aircraft in 1958 and it has made a total of 79 McMurdo turnarounds from Christchurch in five operating seasons. As noted below, more trips were flown during Deep Freeze '63 than in any previous season.

Year	Trips
1958-59	9
1959-60	14
1960-61	17
1961-62	16
1962-63	23

8. Flight Hours Summary. For quick reference, set forth below are the flight hours flown by aircraft type during the period 1 September 1962 to

15 March 1963 (C-121J hours include time flown until 11 April 1963, when it completed redeployment):

LC-130F	3877
C-121J	794
C-54Q	341
LP-2J	549
LC-47/LC-117D	1319
LH-34D	840
U-1B	337
Total	8057

III

DET AIRDEVRON SIX CHRISTCHURCH (CTU 43.2.1)

1. Introduction.

a. An AIRDEVRON SIX Det Christchurch (CTU 43.2.1) was established on 26 August 1962. The primary functions of the Detachment were:

(1) Deployment and redeployment from McMurdo of personnel and aircraft.

(2) Maintenance and checks of aircraft.

(3) Maintenance of adequate stock of aircraft parts and related supplies.

2. Maintenance.

a. The maintenance section of the Detachment was charged with the responsibility of providing modified Class C maintenance support for squadron aircraft and assisting with Class D, E, and F maintenance as necessary.

b. The personnel assigned to the maintenance branches were, in general, adequate for the workload and the problems encountered during the operating season. Although the size of the Maintenance Department is not large, the responsibilities are many and varied due to the variety and complexity of the aircraft systems. The assignment of a permanent maintenance officer and maintenance control chief during the entire season was most beneficial.

c. Spaces assigned to the Maintenance Department are adequate except for the avionics shop. More test equipment is available, but there is no room for expansion. The supply area was moved during the season so that C-47/LP2J type aircraft could be hangared; consequently, check time decreased on these aircraft since the work could be conducted in a sheltered,

lighted area. Other improvements were:

(1) Water fountains and water outlets were installed in shop spaces and in the line shack.

(2) The hangar was painted and the roof repaired during the winter months prior to the operating season. Shop spaces were remodeled and painted during this season.

(3) A new wash rack was constructed and in use for washing aircraft and equipment.

d. During late August and early September, maintenance was primarily concerned with getting shop spaces and equipment ready for the arrival of the squadron. Two engine changes were required (one on the C-54Q and one on the C-47H) early in the season. After all aircraft were deployed to Antarctica except the C-121J, the primary function of Detachment maintenance personnel was conducting LC-130F/LP2J checks. The C-121J crew and the C-54Q crew performed the major portion of the checks on their respective aircraft. The following checks and engine changes were performed:

(1) Twelve intermediate or special checks (conducted as intermediate) on the LC-130F, five intermediates on the C-121J, and two intermediates on the C-54Q and the LP-2J respectively.

(2) The engine changes were: Seven LC-130F, three C-54Q, one C-121J and one C-47H.

3. Supply.

a. The Supply Department was assigned the mission of providing supply support for squadron aircraft, issuance of Antarctic clothing, coordinating and expediting squadron cargo movement and general supply support for Det Christchurch.

b. A complete range of aircraft spares were stocked for the LC-130F, C-121J, LP2J, and C-54Q aircraft. A limited range of items were carried for the LC-47H, LC-47J and the LC-117D, plus electronic spares and general stores material. Range and depth were satisfactory except that demand for LC-130F ski parts was much greater than planned due to failure of pressure bulkheads, main landing gear support brackets, and ski struts.

c. The squadron Bravo Optar was located at Christchurch with feeder reports submitted by the squadron Quonset Point detachment. No difficulties were experienced with allotment record keeping. Limited use was made of Bravo funds for emergency repair of support equipment and aircraft, when considered imperative.

d. During the season a complete wall-to-wall inventory was accomplished and similar materials were consolidated.

4. Communications. The efficiency and dependability of the communications section was greatly increased by the installation of a teletype unit in the detachment spaces on 27 January 1963.

5. Public Information.

a. Detachment PIO coordinated effectively with Staff PIO during a most successful Annual Antarctic Open House held at Harewood International Airport, Christchurch, on 22 September 1962.

b. In addition to the many tours conducted by the Detachment for local groups to organizations, movie and slide presentations were given. The association with the local press was excellent.

c. An internal program of distributing Antarctic information was accomplished. In addition to pictures and pamphlets being distributed, information packets were prepared for Detachment personnel returning to Quonset Point. Packets were also prepared for all personnel aboard the

squadron Super Constellation on the trip to Australia and the return trip of the "Connie" to CONUS.

d. During the summer support season all passengers aboard the C-121J received fact sheets explaining the squadron mission and the aircraft mission.

6. Recommendations.

a. Maintenance.

(1) Implement the ground support equipment branch under the line division.

(2) Install permanent power supply in the hangar to furnish power requirements.

(3) Reduce to a minimum, the turn-over in detachment personnel during the operating season.

(4) Investigate feasibility of establishing permanent LC-130F check crew.

(5) Install hot water heater in the hangar.

b. Supply.

(1) Improve vehicle availability by addition of below listed vehicles:

(a) Pickup or $1\frac{1}{2}$-2 ton truck to expedite emergency procurement in Christchurch and movement of high priority squadron cargo from Lyttleton to squadron hangar at Harewood International Airport.

(b) Elevator platform truck to facilitate loading of non-ramp type aircraft.

IV

DET AIRDEVRON SIX QUONSET POINT (CTU 43.2.4)

1. Introduction

a. DET AIRDEVRON SIX Quonset Point (CTU 43.2.4) was established on 1 October 1962. The primary reason for the establishment of the Detachment was to provide administrative and logistic back up to the squadron, to maintain sufficient facilities to accomodate returning aircraft and personnel, and to supplement communications and administrative functions that by necessity of the usual demands of the Deep Freeze operation cannot be maintained in Antarctica. In addition, the detachment provided aid to dependents in the form of legal referrals, notification of aircraft arrivals and departures, and many other items of personal assistance that were incident to the remoteness of the Antarctic.

2. Supply

a. The primary tasks assigned concerned: procurment, issuing and expediting of spare parts and supplies and the providing of feeder reports that were required in Christchurch and Antarctica.

b. Flexible support through this supply operation in Quonset Point was possible only through assignment of a competent storekeeper in charge who had considerable past experience in Deep Freeze Operations.

3. Administrative/Personnel/Communications

a. The Administrative, Personnel and Communication functions of the Detachment were primarily concerned with necessary liason with COMFAIRQUONSET, the COMNAVSUPPFOR ANTARCTICA Representative in Washington, D.C. and the deployed squadron.

b. Forwarding of mail and pertinent communications was accomplished on a daily basis. All classified files were retained at Quonset Point.

c. The Administrative workload was considerably reduced by the transfer of most administrative functions, including reports, to Antarctica.

d. The squadron experienced four (4) aircraft accidents. The news media expedited stories of this nature and the ability to furnish accurate and timely information to the dependents in CONUS is paramount.

4. Recommendations

a. Personnel assigned, although minimal, were sufficient to accomplish the mission. Retention of an experienced aviation storekeeper is highly recommended.

b. Expeditious and direct contact with the deployed squadron in the event of untoward incidents (such as aircraft accidents) enabled detachment personnel to furnish accurate and timely information to dependents of personnel involved. It is recommended that this procedure be continued.

c. After personnel deployment was essentially completed, the squadron was directed to move to n w spaces. This placed a heavy workload on the few detachment personnel remaining. It is recommended that any future moves be accomplished prior to deployment.

V

DET AIRDEVRON SIX BYRD STATION(CTU43.2.3.)

1. Mission. The mission assigned to DET AIRDEVRON SIX Byrd Station (CTU43.2.3.) was the support of the planned program in the Antarctic by providing aerial logistic support, reconnaissance, photography, and SAR by means of the aircraft operating from Byrd Station.

2. General:

a. The detachment was activated on 27 October 1962 with the arrival of an LC-117D aircraft from McMurdo. Two days later, on 29 October, the first LP2J aircraft arrived to comprise an initial complement of five officers and eight enlisted personnel. As the second LP-2J aircraft and additional personnel for servicing and maintenance were phased in, the detachment increased to a total of eight officers and seventeen enlisted personnel.

b. The initial tasks of the detachment were to prepare facilities so that photo reconnaissance operations by the LP-2J aircraft could be initiated at the earliest possible date, and to insure that flight following and SAR functions were established.

c. The initial tasks were accomplished expeditiously, and attention was then directed to preparing LC-117D BUNO 99853 for a one time flight to McMurdo. This aircraft was damaged just prior to the end of DEEP Freeze 62 and it was placed in winter storage at Byrd Station at that time.

This task required moving six -foot snow drifts, re-evaluating damage sustained, effecting necessary temporary repairs and prepairing the aircraft for flight. On 20 December, this aircraft, escorted by an LC-47, successfully completed the one time flight to McMurdo where it was disassembled and shipped by surface to Lyttleton, and subsequently towed to the NAC facilities at Harewood International Airport where permanent repairs were to be effected.

d. Also on 20 December, operations of the detachment were temporarily ceased as it was necessary to fly the two LP-2J aircraft to McMurdo, and thence to Christchurch, for heavy maintenance. A small segment of the detachment remained at Byrd Station during this period, to service and re-fuel the LC-130F aircraft as required.

e. The detachment resumed operations on 9 January 1963, when an LC-47 and the two LP-2J aircraft were again positioned at Byrd Station.

f. On 16 February 1963, flight operations were discontinued, the last of the aircraft deployed to Byrd Station were returned to McMurdo, and the detachment was disestablished.

3. Flight Operations:

a. General. LC-117D and LC-47 aircraft conducted flight operations to the Ellsworth Land Region "Eights Station", Pensacola Mountains, Sentinel Mountains, along the route of the "Whitmore Ice Movement Traverse", and to the Aurora Sub Station in support of the planned aerial logistics program in the Antarctic. During the first part of the season the LC-117D and the LC-130F aircraft conducted coordinated flights into "Eights Station",

Penscola Mountains, and the Sentinel Mountains. The LC-117D aircraft, landed first at these respective campsites, relayed weather information, described surface conditions, and guided the LC-130F aircraft to safe landing conditions. This method of operation proved invaluable for reconnaissance, weather probes, selection of campsites, safety of flight for the LC-130F aircraft, and safeguarding the traverse personnel until the respective sites were set up and radio communication established with one of the main bases.

b. Eights Station. The first operation from Byrd Station took place on 1 November 1962 when an LC-117D aircraft departed for "Eights Station" with an advance party of Navy and USARP personnel on board. The personnel and cargo were landed and the station was re-activated, and communications established before the aircraft returned to Bryd Station.

c. Pensacola Mountains. Prior to attempting an initial landing at one of the three (3) pre-determined selected campsites, an LC-117D reconnaissance flight to the Pensacola Mountains was completed with an advance party of USARP personnel on board. The reconnaissance and the initial landing was combined and successfully carried out on 9 November 1962. The campsite was constructed and radio communications established before the LC-117D aircraft returned to Byrd Station. The traverse party of six (6) USARP personnel was evacuted from the base camp in the Pensacola Mountains on 4 Febuary 1963, by an LC-47 and a LC-130F aircraft.

d. Sentinel Range.

(1) A flight reconnaissance of the Heritage Range was accomplished on 16 November 1962, prior to an initial landing at a predetermined campsite located on the grid eastern end of the Sentinel Range. This campsite was successfully established and acted as a base camp for two seperate Minnesota Geological Traverse Parties. The first of the two parties planned to operate from this established base camp and the second traverse party planned to traverse from the grid western end of the Sentinel Range and rendezvous at the base camp. The second traverse party was flown to the grid western end of the Sentinel Range on 21 November 1962 and an initial landing was attempted. The LC-117D crashed on touchdown. An LC-47 completed the aerial support and the mission was completed without further difficulty.

(2) An emergency medical evacuation LC-47 flight was flown on 20 January 1963 in order to evacuate a member of the Minnesota Traverse Party from the Heritage range to Byrd Station. This group was operating in the Hertgage Range one-hundred sixty (160) miles from the base camp located in the Sentinel Range. A resupply of the base camp was combined with the medical evacuation.

e. Whitmore Mountains Ice Movement Traverse. An LC-47 aircraft conducted an aerial reconnaissance between the Whitmore Mountains and Byrd Station for the Ice Movement Traverse Party on 11 December 1962. Three supply depots were positioned thirty-eight(38) statute miles apart in advance of the Traverse Party on the 18th and 19th of December 1962. The remaining three caches were placed in position thirty-eight (38) statute

miles apart in advance of the traverse party on the 12th, 13th, and 14th of January 1963. One USARP passenger was picked up at cache six (6) on 19 January 1963, and returned to Byrd Station.

f. Aurora Sub Station. An Emergency Evacuation Flight was flown to the Aurora Sub Station on 11 January 1963 from Byrd Station in order to evacuate two USARP personnel who were burned about the arms and face from a gasoline flash fire. The two personnel were treated by the Medical Officer prior to being returned to Byrd Station. The Aurora Sub Station was temporarily closed at this time and re-opened during the period 12 and 13 January 1963 with the return of two USARP personnel and supplies on board the LC-47 aircraft. Other resupply flights to this site were completed on the 17th and 19th of January 1963.

g. Eights Station Traverse Party. This traverse was forced to stop for repairs at seventy-seven (77) degrees twenty (20) minutes south and eighty-eight (88) degrees west. One LC-47 resupply flight was aborted due to weather on 21 January 1963, and the second LC-47 resupply flight was successfully completed on 23 January with the necessary D-8 Tractor parts on board. The D-8 Tractor was repaired and the traverse party continued on to "Eights Station".

h. Photo Reconnaissance. The LP-2J "NEPTUNE" aircraft performed numerous photo flights while operating out of Byrd Station. Included in the accomplishments were flight lines flown in the Pensacola Mountains, Sentinel Range, and the Whitmore Mountains Ice Movement Survey. Details of these operations are contained in the LP-2J section of air operations.

4. Aircraft Accidents. One LC-117D aircraft accident occured on landing in Sentinel Range; due to the damage sustained and the difficulty of repairs due to the remote area in which the accident occured, the aircraft was declared a "strike".

5. Flight Following. A Flight Following System was established and maintained at all times when an aircraft was airborne out of Byrd Station. A log was maintained and hourly positions and AIREPS received by the Duty Officer. It was the responsibility of the watch to be alert for deteriorating weather conditions and to insure the SAR crew and aircraft were available for any contingency.

6. Logistic.

a. "Pack-up" kits were maintained to support assigned aircraft with high usage spares. Other items required were delivered from McMurdo on the scheduled logistic flights for Byrd Station.

b. AVGAS and JP-4 were delivered in drums and transferred to bladders for storage.

c. Other POL products were delivered and stored in drums.

7. Problem Areas.

a. Upon arrival of the detachment, it was determined that:

(1) No "line shack" had been provided from which to operate while servicing and maintaining the three aircraft assigned, plus servicing LC-130F aircraft as required.

(2) Fuel bladders for AVGAS and JP-4 had not been positioned

(3) No ground support equipment was available

(4) All JATO was stored at Old Byrd Station

(5) Inadequate living space had been allocated for flight crew personnel.

(6) No communications existed between Base Communications and the detachment working area.

b. In order to prepare facilities for the initiation of flight operations, it was necessary to accomplish an extremely heavy work load, plus maintaining the aircraft meantime. Additional personnel were assigned from the squadron at McMurdo to ease the situation.

8. Recommendation.

a. The items listed as "Problem Areas" fall under the purview of the supporting activity, ASA. It is recommended that the responsibilities of the squadron and ASA be reviewed in order to insure:

(1) That a "Line Shack" is erected in the vicinity of the aircraft parking area and that communications are provided between Base Communications and the "Line Shack".

(2) That AVGAS and JP-4 bladders are positioned and filled prior to the arrival of any aircraft.

(3) That a JATO storage area is readily accessible to the aircraft parking area.

(4) That sufficient equipment is made available to the detachment personnel to facilitate the movement of squadron gear required for aircraft operations and to provide personnel transportation from the detachment work area to the living spaces and Base Communications/Weather Facilities.

b. It is recognized that space is at a premium during the "Summer Season" at all bases. However, adequate recognition must be accorded to the realistic requirments for flight crews, since no rigid schedule can prevail for these personnel if they are to be fit to meet flights which must be operated as weather dictates. It is therefore recommended that the living spaces assigned the detachment be carefully assigned, preferably in a separate area to preclude mutual interference with base personnel.

VI

PARA-RESCUE TEAM

1. General

a. In October 1956, the Chief of Naval Operations authorized the establishment of a para-rescue team within the squadron, to assist in conducting rescue missions in the Antarctic. This team was organized at that time, and has been maintained as a squadron capability.

b. This team was called on alert during DEEP FREEZE 63 to assist in rendering aid at the scene of a crash; however, since the site was within helicopter range, it was not utilized.

c. Proficiency in jumping was maintained during deployment, as well as while redeployed. The team had an average strength of nine men, and a total of ninety four jumps were made in training.

d. Other training was conducted in first aid, ice traversing, crevasse recovery, use of safety lines and mountain climbing.

2. Recommendations

a. Although the capability of this team has never been utilized, it offers the only rescue means in an area where aircraft cannot land and which is too remote for helicopter operation; therefore, it is recommended that the Para-Rescue Team be continued.

b. In addition to maintaining jump proficiency, it is recommended that advanced training be provided in the following:

(1) First aid

(2) Mountain climbing

(3) Radio-telegraphy

(4) Ice traversing and crevasse recovery (the course offered by the Scott Base personnel at McMurdo during the past season is highly recommended).

VII

TRAVERSE AND FIELD PARTY SUPPORT

1. General.

a. The squadron was specifically charged, during Operation DEEP FREEZE'63, with the support of the following traverses:

(1) TOPO WEST
(2) TOPO EAST
(3) WHITMORE MTS.
(4) ROSS ICE SHELF

In addition, emergency support was allocated to the BYRD-EIGHTS STATION traverse to provide repairs after a break-down of that party and supplies were air-lifted to Pole Station for support of the two Pole traverses, although no direct support was provided in the field.

b. Field Party support was provided for programs which included Seal Counts, Entomogical Surveys, Penguin Recons, Albedo Studies and various Geological Programs. In support of these programs, flights were conducted in the following areas:

(1) Cape Crozier
(2) Cape Evans
(3) Cape Royds
(4) Taylor Dry Valley
(5) Wright Dry Valley
(6) Aviation Glacier
(7) Campbell Glacier
(8) Davis Glacier
(9) Shackleton Glacier
(10) Tucker Glacier
(11) Lake Bonney
(12) Lake Penney
(13) Pensacola Mts.
(14) Sentinel Mts.
(15) Mt. Weaver Area
(16) Coulman Island
(17) Roosevelt Island

2. Topo West - Topo East.

a. Mission. AIRDEVRON SIX was assigned support responsibility of the Antarctic Topographical Surveys code named "TOPO WEST" and

"TOPO EAST". The topographical traverse was made with the three Army UH-1B helicopters, one AIRDEVRON SIX LC-47 provided the major logistic support. The first phase, TOPO WEST, extended the survey from Hallett Station via the Cates Coast to Wilson Hills; thence, south along the Artic Institue Range, inland into Victoria Land and terminated at the coast near Lady Newness Ice Shelf. TOPO EAST began at the last peak occupied during the TOPO SOUTH Traverse. The traverse started at Mount Kyffin, continued through the Queen Maude Range to the Robert Scott Glacier; thence along the Watson Encampment to the Horlick Mountains; and terminated at the southern end of the Thiel Mountains. During this phase, two spur traverses were made; one between Shackleton Glacier and the Plateau, and the other between Robert Scott Glacier and Mount Weaver. The Army helicopters established the survey engineering parties on distant peaks where the distance was measured by electrotape measuring equipment. Theodolites were used to measure the horizontal and vertical angles between peaks and other preselected points. Astronomical observations were taken at Hallett Station, Wilson Hills, and Central Horlicks to assure accuracy of the survey.

b. TOPO WEST. Twenty-five days were required to complete TOPO WEST. Nine days were actual working days and sixteen days were lost to adverse weather. The survey started on 4 November 1962 when the first peak was occupied near Hallett Station. Army helicopters operated in a 90 mile radius of Hallett while the LC-47 established fuel caches at 75 mile intervals for the subsequent traverse. On 13 November 1962, the USGS engineers and the Army helicopter unit established the first campsite near Rennick Glacier. As the traverse progressed from peak to peak, the LC-47 support aircraft continued placing fuel caches at

predetermined locations. Aerial photographs taken during previous years were used to determine the best sites to locate the caches. The next camp was established in the Wilson Hills. Five days of adverse weather delayed astronomical observations necessary before the party could move on to Victoria Land, Artic Institute Range, Mt. Murchison and the Lady Newness Ice Shelf. TOPO WEST was completed on 28 November when the Army helicopters returned to McMurdo.

c. TOPO EAST. Survey methods and procedures were similar to previous TOPO projects. The survey was accomplished in thirty-four days of which only eight days were useful for the topographical engineers. Adverse weather conditions delayed scheduled progress. The first campsite for TOPO EAST was established at Beardmore on 17 December. The LC-47 supporting aircraft required an engine change and was not available until 21 December. During the period 17-21 December, an OTTER and one LH-34D supported the Army helicopters, permitting the project to continue. The traverse progressed from Beardmore to Mt. Kyffin, Liv Glacier, Robert Scott Glacier and the Horlicks Mountains. Severe weather was encountered in the Horlicks and accounted for considerable delay. On 21 January the survey pushed on toward the Thiel Mountains where reflection of the sun on the flat snow surface caused distortion in theodolite observations and sighting distances were reduced to 1½ miles. Since forty-five stations would have been required to traverse eighty five miles, the decision was made to terminate the survey at this point because of the poor geodetic control. On 24 January the three Army helicopters departed the Horlick Mts. for Mt. Weaver, where preparations were completed for a flight to the South Pole.

d. Accomplishments. TOPO WEST and TOPO EAST provided accurate geodetic control of 100,000 square miles, and will facilitate map preparation of the following areas:

(1) Wilson Hills - Oates Coast - Northern Victoria Land to Cape Adare.

(2) Beardmore Glacier - Robert Scott Glacier and Mt. Weaver.

(3) Robert Scott Glacier to Central Horlick Mts.

(4) Tied-in areas completed during TOPO NORTH and TOPO SOUTH to provide accurate geodetic control from Wilson Hills through Cape Adare to McMurdo and thence via Beardmore Glacier, Robert Scott Glacier and Mt. Weaver to a termination point in the Central Horlick Mt.

As a matter of interest it has been computed that the area surveyed by TOPO WEST and TOPO EAST, when combined with TOPO NORTH and TOPO SOUTH, represent the equivalent of a one-hundred mile wide strip extending from the Atlantic seaboard to the Pacific coast.

e. Statistics.

(1) Aircraft operations:

Aircraft	Flights	Hours	Cargo (tons)
LC-47	45	161.0	24.4
UH-1B	80	168.5	
LH-34	14	30.0	15.0
LC-130F	15.5	78.0	151.48
U-1B	8	24.0	10.5

(2) Logistics:

Item	Quantity
POL	87,005 lbs.
JP-4 195 drums	
AVGAS 8 drums	
MISC. 11 drums	
CARGO	23,200 lbs.
JATO EXPENDED	226 units
PASSENGERS	67

(3) Topographical Data:

Traverse miles	1502
Peaks Occupied	68
Area Surveyed	100,000 square miles

Appendices have been included to portray both general and detailed charts of TOPO WEST and TOPO EAST.

3. Whitmore Mt. Traverse. Comments concerning efforts expended in support of this program are included in Chapter V, Det AirDevRon SIX Byrd Station.

4. Ross Ice Shelf Traverse. Actual logistic support furnished this traverse was minimal, although approximately 150 hours of IC-47 aircraft time was expended, due to poor weather which caused several flights to return without landing. The majority of the flights completed were primarily to insure that the party was in good condition; due to almost non-existent communications, this party did not maintain a satisfactory "ops normal" report schedule. At the completion of the traverse, the majority of the party's equipment was flown to Roosevelt Island and subsequently returned to McMurdo.

5. Field Party Support.

a. As stated in the opening paragraphs of this chapter, field party support was furnished for various programs in numerous areas in Antarctica. This support included:

(1) Placing parties in the field with initial supplies.

(2) Providing resupply as required.

(3) Providing contact with field parties in instances wherein communications failed.

(4) Providing service to remove personnel due to illness or injury.

(5) Providing air transportation to effect transfers of party personnel, if required.

(6) Removing parties from the field when programs were terminated.

b. Parties supported were those sponsored by the U.S. Antarctic Research Program and also those sponsored by New Zealand.

c. Field parties organic transportation included the usual snow vehicles, motor toboggans and, for some New Zealand groups, dog teams. These modes of transportation created requirements for logistic support in the categories of various POL products plus dog food, as well as conventional support/resupply of field rations and scientific items.

d. Aircraft were assigned these various field support missions; after due consideration for loads to be carried, distances from base to campsite, terrain anticipated in the landing areas and elevation of the area of operations. Aircraft utilized included: LC-130F, LC117D/LC-47, U-1B and LH-34L.

e. Statistics. Support of this type does not generally utilize all available airlift on each flight; consequently only significant statistics are set forth below to indicate the scope of operations undertaken:

Aircraft	Flights	Hours
LC-130F	8	75
LC-117/LC-47	177	630
LH-34	342	700
U-1B	62	218

Within these flight operations, a total of 342,615 lbs of cargo was carried; passengers carried, including field trips for distinguished guests, totalled 978 personnel.

f. Comments. All commitments for field support were accomplished although the loss of 2 LC-117/LC-47 aircraft and 2 LH-34 aircraft during the season, required a constant "juggling" of available aircraft, an outstanding effort on the part of all the crews assigned these missions and constant liaison with the director of the scientific programs to establish judicious "priorities" at times. The cooperation of

the USARP representative, McMurdo, was outstanding, and is considered to have been a major contribution in the successful completion of this phase of the operation.

g. Recommendations.

(1) Insure all field parties are provided reliable communication equipment, to preclude unnecessary trips merely to establish contact.

(2) Insure all field parties are properly indoctrinated in the importance of regular communication schedule. The schedule prepared by USARP representative, McMurdo, this season proved very effective when communication equipment was operable.

(3) Request that all field parties include in each communications contact, information concerning ceiling, visibility, surface definition and suitability of the terrain for landing, or nearest suitable landing area. A constant flow of this information will facilitate operations for field support.

(4) Brief all field parties on aircraft capabilities, landing requirements and ground safety precautions when aircraft operations are in process.

(5) Aerial photographs of areas wherein field parties will operate are extremely informative. A joint evaluation of such photographs, by pilots and field party personnel, will enhance selection of potential landing sites.

(6) Continued operations of this type re-emphasize the necessity for a replacement aircraft for the LC-117/LC-47 and LH-34. It is strongly recommended that both types be turbine-powered, to reduce the spare parts inventories and preclude the necessity for lengthy pre-heating (a mandatory procedure for reciprocating-engine aircraft).

6. Albedo Study.

a. General. This study was conducted almost exclusively with the C-54Q aircraft assigned. This aircraft did not arrive at McMurdo until 20 October 1962, due to: (1) late receipt of aircraft and installation of albedo equipment and, (2) delay in Christchurch awaiting preparation of the aircraft parking area at McMurdo.

b. By the time albedo runs were initiated, cloud coverage in the operational area had increased to an unacceptable factor; it is estimated that albedo runs effectively utilized only about 20% of the aircraft time available, due to the adverse cloud conditions.

c. A total of ten flights were completed for this project; the following statistics are considered pertinent:

(1) Albedo runs	35
(2) Flights	10
(3) Flight hours	53
(4) Nautical miles flown	9500

d. It has been established that the C-54Q aircraft is adequate for this mission, despite cold weather operational problems.

e. Recommendations:

(1) If albedo studies are tobe continued during DEEP FREEZE 64, SAR responsibilities should be reassigned in order to free the C-54Q for albedo work prior to occurrence of the ice break-up in the operational area.

(2) Additional crew indoctrination in albedo work should be conducted prior to deployment. (There was no opportunity for this prior to DEEP FREEZE 63).

(3) Program schedules should acknowledge that operational problems, mainly due to cloud coverage, after 15 November, effectively set a termination date for this study each season.

(4) Add an automatic time recording device to the albedo recorder, to synchronize recorder data and photo coverage, thereby eliminating the need for one crewman while albedo runs are being flown.

VIII

COMMUNICATIONS

1. Introduction. In the Antarctic, as in all Naval Operations, Communications is the nerve center that links and provides for coordination of the many elements of the Operation. Antarctic communications are unique in the Navy in that all forms of communications are dependent on radiotelephone and radiotelegraph service. Telephone and land-line teletype service is nonexistent between the widely scattered units and bases of Operation Deep Freeze. Even the transport of mail is dependent on flight operations, which are in turn dependent on reliable radio communications for weather and flight following information. Employment of the most modern and reliable radio equipment, manned by highly skilled and motivated radiomen, is, therefore, of utmost importance in the conduct of efficient and safe operations in the Antarctic.

2. General. The Communications Division provided all those services normally required for a deployed unit. In addition one man from the division set up, repaired, and maintained the amateur radio station operated by the squadron at Williams Field and assisted in setting up the station at Main Camp.

3. Comments.

a. Telephone service in the Main Camp was outstanding during DF'63 after the installation of the automatic dial system. Service between Main Camp and Williams Field during early season was by land line, therefore, poor because of a limited number of lines, and unreliable due to frequent line breakages. Installation of the microwave at mid-season provided generally excellent service for the remainder of the season. Maintenance of the land line deteriorated after installation of the microwave and no backup telephone service was available during the in-

frequent outages of the microwave.

b. Air to ground communications were generally excellent with the extensive use of SSB backed up by HF frequencies. Increased installation of SSB equipment at outlying stations improved reliability of communications during Deep Freeze '63. UHF and VHF service with Williams Field Tower, Williams GCA and Byrd GCA was excellent. UHF and VHF communications with outlying stations were almost nonexistent due to lack of equipment and, in some cases poor maintenance of the limited existing ground station equipment. Weather, cargo, passenger, and administrative traffic were therefore added to the primary flight following function of the SSB and HF air to ground frequencies.

c. Navigation aids available for flight operations continued to improve during Deep Freeze '63. Installation of TACAN and GCA increased the ease and safety of operations at Byrd Station. The smaller outlying stations, notably Little Rockford and Beardmore, generally provide poor radar targets, are difficult to locate visually under ideal weather conditions and are almost impossible to locate visually in less than perfect weather conditions. Search for these stations added to the flight time in several instances, and failure to find the stations in isolated instances caused the flights to be aborted.

d. Pickup of incoming messages and delivering of outgoing messages to the Communications Center at McMurdo was difficult because of the lack of transportation and the remote location of the Communications Center. Routing of message copies to squadron personnel at Williams Field was also slow because of limited transportation service.

e. The FM radios, located at VX-6 Operations and Supply Offices in Main Camp, and Line Maintenance at Williams Field, proved a valuable

communications link between these key squadron elements, particularly during times of telephone service outage.

f. The services of many volunteers in maintaining and operating the amateur radio stations was a commendable effort. The many "ham-grams" and phone patches handled by the station contributed immeasurably to the morale of all personnel.

4. Recommendations.

a. Improve the installation and maintenance of the telephone land-lines between Main Camp and Williams Field in order to provide a reliable backup during temporary outage of the microwave system.

b. Increase installation of UHF and VHF equipment and improve maintenance on existing equipment at outlying stations. This would allow increased utilization of such equipment now installed in the aircraft, remove much minor traffic from the SSB and HF frequencies, and thus leave them to their primary function of handling flight following.

c. Install at least one navigation aid preferably, a UHF homer, at every outlying station. Where equipment is installed, insure proper maintenance in order to obtain maximum possible availability.

d. It is recommended that a teletype be installed in the VX-6 offices at McMurdo to speed receipt and delivery of all squadron traffic. Further effort should be made to provide teletype service to Williams Field in order to expedite communications to that area.

e. Voluntary participation by trained radio amateurs and all other interested personnel should be encouraged to insure continued operation of the squadron amateur radio station.

IX

NAVIGATION

1. General.

a. During DEEP FREEZE 63, approximately 850 long-range flights were conducted by AIRDEVRON SIX. While operating in Antarctica, the Grid System of polar navigation was used exclusively. The Grid System is considered the best and the most accurate system for polar navigation, and outstanding results were obtained.

b. Free gyro operation using the F-1 compass system, monitered by true heading checks on the sun, gave excellent directional determination. Positions were obtained mainly by EP's, using sun LOP's and drift. Fixes were obtained using sun, moon and Venus when possible.

c. Radar navigation was successfully employed and was utilized in locating camps without navigational aids. Radar availability was good, but radar pressurization failures continue to occur; a change has been submitted to correct this deficiency.

2. Personnel.

a. The squadron complement of eighteen navigators was found to be sufficient and they were utilized as follows:

NO. OF A/C	TYPE	NO. OF NAVIGATORS
4	LC-130F	8
4	LC-47	4
2	LP-2J	2
1	C-121J	2
1	C-54Q	2

b. The breakdown of assigned navigators was as follows:

Naval Aviation Observer (N) (2nd tour)	3
Naval Aviation Observer (N) (1st tour)	9
Marine Navigator (2nd tour or more)	6

3. Recommendations.

a. It is recommended that the assignment of first tour navigators be limited to four. It has been found that four is the maximum that can be adequately trained due to non-availability of navigation training flights and the short training period.

b. It would be advantageous if navigators were ordered to report in early January so polar experience could be gained while under supervision. This and the trans-pac experience would be invaluable the following season and would significantly reduce the number of navigation training flights required.

c. The APA-52A Doppler Drift Attachment was again satisfactorily utilized for the determination of drift. Continued use of this equipment is recommended.

d. The LC-130F secondary compass system (Polar Path compass) continues to be unreliable and is inadequate. It is recommended that a standby N-1 system be installed, with an additional master indicator at the navigators station with provisions for selecting either N-1 system for the auto-pilot system, radio compass, localizer and omnirange indicators. The present installation leaves the LC-130F without reliable directional information in case the N-1 compass fails.

X

PHOTOGRAPHY

1. Mission.

a. AIRDEVRON SIX was assigned the responsibility for aerial photography for Operation DEEP FREEZE 63. To accomplish this mission, the LP-2J was utilized for special mapping and long range missions, and the C-54Q, U-1B, LH-34D were used for other aerial photographic missions. It should be noted that the C-121J (Connie), although configured for tri-metrogon, was not used for photography in this deployment due to other commitments.

b. The squadron was also assigned the operation of the McMurdo photo laboratory with the AIRDEVRON SIX Photo Officer serving as Officer-in-Charge.

2. General.

a. The photographic objectives assigned to AIRDEVRON SIX included the continuation of the Antarctic Tri-metrogon mapping program outlined by the U.S. Geological Survey Department. It was also determined that AIRDEVRON SIX would furnish aerial and oblique photographic coverage as required by Task Force 43, the U.S. Antarctic Research Program requirements, and as specified in Articles 0202 and 0214 of OPNAV INST P3150.6B.

b. Since the AIRDEVRON SIX Photo Officer was also OinC of the McMurdo photo laboratory, certain other requirements were assigned for photo coverage, both motion picture and still, of the following areas:

(1) CTF-43 inspection and VIP visits

(2) AIRDEVRON SIX activities

(3) ASA activities

(4) USARP activities

(5) TG-43 ship operations at McMurdo

(6) New explorations

(7) New Construction (all bases)

(8) Building deterioration (all bases)

(9) Newsworthy events

(10) Aerial views of all bases (movies and aerial stills)

(11) Historic events

(12) Cargo handling and air drops

(13) Fleet Home Town News subjects

(14) Other subjects as directed by CTF-43

3. Training. In view of the high personnel turnover rate within AIRDEVRON SIX, it is necessary to conduct an extensive training program each year to qualify men in the techniques of cold weather photography. To accomplish this training, seminars were convened by the U. S. Naval Photographic Center and the U. S. Geological Survey Department in Washington, D. C., and aircrew procedures and techniques were taught by squadron instructors.

4. Accomplishments. A total of 19,427 flight line miles of mapping was requested for DEEP FREEZE 63. Of this total, 4,168 flight line miles were considered for special mapping purposes. 11,018 flight line miles were comitted to be accomplished from aircraft based at Byrd Station and the remaining 8,409 flight line miles from McMurdo. Detailed statistical information follows in this report. Appendices portray tri-metrogon mapping commitments and accomplishments and special mapping commitments and accomplishments.

a. TRIMETROGON MAPPING COMPLETED DEEP FREEZE '63

MISSION PRIORITY	AREA MAPPED	FLIGHT LINE MILES REQUESTED	FLIGHT LINE MILES FLOWN	SQUARE MILES ACCEPTED	PERCENT OF AREA COMPLETED
M-1	BRITANNIA RANGE	315	885	4,415	100%
M-2	QUEEN ALEXANDER RANGE	311	438	4,265	100%
M-3	QUEEN MAUD RANGE	1,285	1,220	9,310	44%
M-4	VICTORIA LAND	1,635	2,137	21,390	70%
M-5	EDWARD VII PENINSULA	1,600	0	0	0
M-6	BALLENY ISLANDS	95	0	0	0
B-1A	PENSACOLA MOUNTAINS	1,386	0	0	0
B-1B	HERITAGE RANGE	508	1,388	7,300	20% *
B-2	RECON. FLIGHT (AREAS M-5, B-3 & B-4)	555	240	3,384	45%
B-3	EDSEL FORD RANGE	1,559	0	0	0
B-4	HAL FLOOD RANGE	1,327	0	0	0
B-5	WEST WALGREEN COAST	1,506	0	0	0
B-6	EAST WALGREEN COAST	3,177	0	0	0
TOTALS:		15,259	6,308	50,064	29%

* ADDITIONAL 55% JUDGED USEABLE BUT RE-FLIGHT REQUESTED.

(1) AIRDEVRON SIX Special Mapping commitments totaled 4,168 flight line miles. Statistical information is contained below.

SPECIAL MAPPING COMPLETED DEEP FREEZE '63

MISSION PRIORITY	AREA MAPPED	FLIGHT LINE MILES REQUESTED	FLIGHT LINE MILES FLOWN	SQUARE MILES ACCEPTED	PERCENT OF AREA COMPLETED
S-1A	QUEEN MAUD RANGE	155	167	720	40%
S-1B	QUEEN MAUD RANGE	100	110	0	0
S-2A	COULMAN ISLAND	20	75	10	100%
S-2B	CAPE CROZIER	80	80	80	100%
S-3	ROOSEVELT ISLAND	AS DIRECTED	--	CANCELLED	--
S-4	ROYAL SOCIETY RANGE	175	175	1,855	100%
S-5	ALBEDO	1,627	1,620	3,200	100%
S-6A	LITTLE AMERICA COAST	100	0	0	0
S-6B	KAINAN BAY	50	0	0	0
S-6C	OKUMA BAY	80	0	0	0
S-6D	BAY OF WHALES	100	0	0	0
S-7	BYRD STATION TO WHITMORE MTS	1,000	1,560	14,100	100%
S-8	ROYAL SOCIETY RANGE (COLOR)	75	147	312	100%
S-9	PENGUIN TRACKING PHOTOGRAPHY	AS DIRECTED	--	CANCELLED	--

CONTINUED ON NEXT PAGE

SPECIAL MAPPING (CONTINUED)

MISSION PRIORITY	AREA MAPPED	FLIGHT LINE MILES REQUESTED	FLIGHT LINE MILES FLOWN	SQUARE MILES ACCEPTED	PERCENT OF AREA COMPLETED
S-10	SEAL POPULATION STUDIES	20	20	50	100%
S-11	MINNA BLUFF	60	60	96	100%
S-12	ICE MOVEMENT RECON FOR N.Z.	400	0	0	0
S-13 S-14 S-15	LOCAL AREAS (COLOR)	16	16	24	100%
S-16	HUT POINT PENINSULA	80	80	464	100%
S-17	MARTIN PENINSULA RECON	--- CANCELLED -- NEEDED NEXT YEAR --			
S-18	INLAND COAST RECON	--- CANCELLED -- NEEDED NEXT YEAR --			
S-19	MARBLE POINT	30	30	96	100%
	TOTALS:	4,168	4,140	21,007	48%

(2) The amount and types of general interest, public information pictorial and documentary photographic coverages are illustrated below by file classification, category type and amount of coverages obtained.

GENERAL PHOTOGRAPHIC COVERAGES BY CATEGORIES AND TYPE OF PHOTOGRAPHY

CATEGORY	B & W STILL PHOTOS	4 x 5 COLOR	35 MM COLOR SLIDES	16 MM MOTION PICTURE FOOTAGE EXPOSED ALL PROJECTS COLOR	BLACK AND WHITE
Aviation Activities	176	22	100	2,800	
Construction Progress & Documentary	297	9 18	60	4,000 4,600	
Damage	184			600	
Equipment	202	12	60	1,100	
Fuel	42			700	
Geographic Location	78	5	40	1,600	
Ice Reconnaissance	71				
Medical	8				
Personnel	950	30	160	4,300	900
Ships	71	4		200	
Scientific	79	16	40	1,600	
Scenic	129	18	60		
Trail and Traverse	293	60	160	6,900	
Wild Life	40	12	60	1,200	
Weather	15			200	2,600
Cargo	111	3	40	3,400	
TOTALS	2,746	209	780	33,200	3,500

(3) PHOTOGRAPHIC PRINT PRODUCTION BY SIZE AND TYPE

FOR MCMURDO LABORATORY

SIZE	CONTACT	PROJECTION	TOTAL
$2\frac{1}{4}$X$2\frac{1}{4}$			
4X5	15848	677	16525
5X7		2068	2068
7X7	673		673
8X10	150	1525	1675
9X9	319		319
10X20			
11X14		95	95
16X20		10	10
20X24		68	68
TOTALS	16990	4443	21433

5. Comments and Recommendations.

a. Tri-Metrogon aerial mapping photography is one of the primary objectives of the squadron. In view of the high percentage of new personnel it is recommended that several aerial photographic flights be flown locally during the summer months to increase the proficiency of the photo team including pilot, navigator, and photographer.

b. Certain AIRDEVRON SIX Photo personnel are stationed in the Det One Photo Labratory, Christchurch, to process and annotate the aerial mapping photography. When the sea water conversion plant is completed and water supply at McMurdo becomes sufficient, it is recommended the aerial processing facilities be moved to McMurdo in order to decrease time lag between flights and processing.

c. The LP-2J aircraft presently assigned photo missions are restricted in range and altitude and have limited navigational equipment. In addition, operation of these reciprocating engine aircraft is not feasible in surface temperatures colder than -30°. However, minimum cloud cover is most often encountered during the very early period of the deployment, when much colder temperatures are experienced. It is recommended that the requirement for two photo configured LC-130F aircraft be re-emphasized. These aircraft can be successfully operated early in the deployment period to take advantage of minimum cloud cover conditions, and their range and altitude capability is sufficient to enable them to adequately perform the photo missions.

d. It is recommended that the format of the monthly status report be modified to include square miles requested and square miles accepted in order to give a more realistic summary of accomplishments.

e. Provide the Photo Lab with a weasel, or similar vehicle, to transport cameras and film from the Photo Lab to the aircraft. The "Photo Weasel" at McMurdo is considered to be a satisfactory vehicle but it could not be utilized because of the condition of disrepair; consequently, any and all transportation was utilized to move the cameras.

f. Conduct a day-to-day study of photo aircraft availability, the reason for not flying photo recon flights or aborting same and reasons for non-acceptance of completed photography. It is the opinion of this command that such a study will lead to a more concise evaluation of photo recon capabilities and contubute to the compilation of more realistic commentments.

XI

MAINTENANCE

1. General. AirDevRon SIX aircraft maintenance was divided into two categories, Preventive Maintenance (Inspections) and Line Maintenance (Trouble Shooting). Most of the Preventive Maintenance on the LC-130F and LP-2J aircraft was performed at Christchurch; all work on the LC-117D, LC-47H, LH-34D and U1-B was performed in the Antarctic. Line Maintenance encompassed everything from routine refueling to engine changes in the field with minimum base support. For simplicity, the maintenance problems and accomplishments will be broken down into three types; Turbo-prop (LC-130F), Reciprocating (LC-117D , LC-47, and U1-B), and Helicopter (LH-34D).

2. Turbo-prop aircraft. The maintenance problems on the LC-130F's may best be understood if it is realized that approximately three-quarters (750 hrs.) of a years flying (1000) hrs. is achieved in one-third of a year (Nov. - Dec. - Jan. - Feb.). To accomplish this it is necessary that the aircraft be worked to near maximum capabilities.

a. Preventive Maintenance. The LC-130F's were on a calendar type inspection system which called for an inspection to be performed every ninety (90) days. During the heavy operating months, the squadron scheduled the aircraft for a special inspection 45 days subsequent to each intermediate inspection. Since ten days are required for each inspection, one aircraft was "in check" at Christchurch at all times, with three in the Antarctic. This scheduling of Preventive Maintenance worked very well and allowed ample time for Time Component Changes; incorporation of Aircraft Service Changes; processing of routine work orders, etc.. The only problem encountered this year was when the "special" inspections were not performed due to the amount of time

consumed in returning to Marietta, Ga. for rework of the landing gear. In these instances, a considerable amount of time elapsed between inspection on the alternators, which resulted in excessive brush wear. The possibility of a recurrence of this problem has been eliminated by requiring that brushes be inspected at 150 hr. intervals.

b. Line Maintenance

(1) Most of the troubles encountered in the Line Maintenance of LC-130F's were associated with the landing gear and ski systems.

(2) The first series of troubles in the landing gear "Pork Chops" and chine sections occurred during November. Cracks were found in both pieces (pork chops & chines) requiring a trip back to LAC Marietta, Ga. for replacement. After approximately five failures, parts were shipped to Christchurch for installation by our own crew.

(3) The next series of troubles occurred at the end of January in the ski-systems. The inboard struts (fore & aft) began to shear and break. A total of nine struts out of sixteen ultimately failed. Most of the replacements were performed "on the ice" at McMurdo. The most difficult job was performed at Byrd Station after both fore and aft struts of the port ski had broken on landing. As there was no method of jacking the aircraft in the soft snow, planks had to be used and the main landing gear manipulated (raised & lowered) in order to inch out enough room to replace the broken struts.

(4) The final landing gear trouble occurred during the "closing up" of Little Rockford at the end of February, the piston in the nose gear oleo strut of Bureau No. 148320 broke while taxiing. A crew was flown in with a replacement part. Using air-bags to jack the nose,

repairs were effected in approximately seven hours.

(5) While the overall performance of the aircraft was outstanding, often logging 150 hrs. without a discrepancy, it is noted that four props, twelve alternators, two ATM's and numerable small parts were replaced as routine maintenance.

3. Reciprocal Engine Aircraft. The reciprocal category covers all those having reciprocating engines except the Helicopters. While most are older aircraft and are comparatively simple to maintain, they do rquire considerably more line maintenance. Two hours preheat and an auxillary power supply were required for each start. The U1-B, and LC-117D/LC-47 were assigned to ferry scientific parties in and out of the field; this usually required open-field operations. This type of operation, involving rough terrain and a requirement for JATO on almost every take-off, subjected the aircraft to great stresses.

a. Preventive Maintenance. With the exception of the LP-2J's for which case Calendar Inspections were performed at Christchurch, all the preventive maintenance was performed on the ice. No trouble or difficulty was experienced in this phase of the operation.

b. Line Maintenance

(1) Very little difficulty was experienced with any of the reciprocal type aircraft except for the LC-117D/LC-47D. This type aircraft spent quite a bit of time in the field at advanced camps and received only a minimum of routine maintenance. Some of the difficulties encountered were:

(a) Early in November 1962, a crew was flown into Byrd Station to dig out LC-117D, BuNo 99853. This aircraft had been damaged on

landing during the previous season. The aircraft was readied, and made a one-time flight to McMurdo where it was back-loaded on the U.S.S. ARNEB for repair at NAC, Christchurch, New Zealand.

(b) In the middle of November, LC-47, BuNo 17107, while making an open field landing near Mount Wilson, broke one ski. The plane crew made temporary repairs and returned to base.

(c) On 9 December, LC-47, BuNo 17107, lost an engine on take-off from Beardmore Station. This necessitated flying in a crane, engine and crew. Using a homemade hangar of cargo-chutes and bamboo poles, the engine was changed in -20 degree F. weather, and when test flown, the new engine required very minor adjustments.

(d) On pre-flight inspection of LC-47, BuNo 17107, while operating in the Horlick Mountain Range, a cracked truss assembly of the port main landing gear was discovered. Using air bags to jack the aircraft, the assembly was changed in less than four hours.

(e) During the first week in February, LC-47, BuNo 50778, experienced a cracked ski while operating in the Pensacola Mountain Range. Once again a crew was flown in from McMurdo and the ski was changed in record time.

(f) As a remedy for the landing gear troubles incurred in the LC-47/LC-117 aircraft the Bureau has directed that the following action be taken:

a. Replace welded truss assembly with bolted assembly.

b. Replace skis with "beefed up" skis.

4. <u>Helicopters.</u> Helicopter operations were carried on in a routine

manner. Engines required pre-heat prior to starting during most of the season.

a. Preventive Maintenance. All inspections were performed at the Heloport at McMurdo Sound where a hangar is available for major inspections. No difficulty was experienced with this type of operation.

b. Line Maintenance. Line Maintenance was mostly routine on the helos. The only field maintenance performed was performed during December and early January. A rough running engine caused the abortion of a flight into the mountains and the Helo was landed on Farrar Glacier. A crew was flown in and confirmed that an engine change was required. A special "A" frame had to be fabricated to hoist the engine. The special hoist, tools, engine and camp equipment were slung under another Helo and flown out to Farrar Glacier where the engine was changed.

5. Ground Support. The Ground Support Division was charged with the responsibility of supplying all ground support equipment required to maintain the assigned aircraft. This included pre-heaters, auxillary power units, hydraulic test stands, jacks, cranes, hoists, etc..

a. The Ground Support Personnel, in addition to their routine maintenance, performed the following jobs in order to improve working conditions:

(1) Completely renovated the old canvas covered helo-hangar and made it into a pre-heater repair shop. This included installing a deck, insulated bulkheads, and an overhead which is also used as a storage area.

(2) Four (4) Waukeshaw Auxillary Power Units, capable of delivering 300 amp at 28V-DC, were built up from salvaged parts. These units

were picked up on the SIR inventory and one was backloaded as in excess of requirements.

(3) Built-up two thirty (30) ton jacks and fabricated special skids to mount them.

(4) Installed a low pressure air compressor and piped the air to all working spaces.

(5) Inventoried and declared as excess 50,000 lbs. of equipment valued at $21,000. This equipment was backloaded for repair and/or redistribution.

6. Recommendations. The following recommendations are submitted for improving maintenance during "Operation Deep Freeze 64".

a. Procure a portable X-Ray machine for use at McMurdo to facilitate investigations of landing gear and other failures in the aircraft structure.

b. Procure vehicles for the exclusive use of AirDevRon SIX for hauling ground support equipment and moving and loading aircraft (LC-117D/LC-47) A D-2 LPG tractor with a blade and boom would be desirable.

c. Design and manufacture skis for ground support equipment; i.e., cranes, work stands, pre-heaters, etc..

d. Install a more reliable communication link with the hill, FM or telephones (micro-wave).

e. Install a reinforced hoist on a monorail in the "new" helo hangar, capable of lifting two tons (4,000 lbs.).

XII

SUPPLY

1. General. The Supply Department was assigned the mission of providing Supply support including procurement, receipt, shipping and issuing of all technical and general requirements for the Squadron.

a. At Christchurch support was provided for the LC-130F, LP-2J, C-121J, C-54Q, limited support for the LC-47J, LC-47H and LC-117D aircraft, plus electronic and general supply support. Support was provided for the LC-130F, LP-2J, C-121J, C-54Q, LC-47J, LC-47H, LC-117D, LH-34D and U-1B plus electronic and general supply support at McMurdo. Miscellaneous items were furnished to Helicopter Detachments aboard Ice Breakers and to U.S. Army HU-1B helicopters. Range and depth was considered satisfactory except that demand for LC-130F ski spares was greater than anticipated due to failure of various components.

2. Personnel. There were 46 Supply personnel assigned as follows:

	Christchurch	McMurdo	Quonset Point
AK/SK	11	14	3
DK	1	1	0
CS	5	5	0
SD	2	4	0
Totals	19	24	3

a. All DK, CS and SD rates were assigned to Base Commands at Christchurch and McMurdo. In addition one AK was assigned to Det One, NavSuppFor Antarctica, Christchurch to assist in cargo handling. Numbers and distribution of personnel were considered satisfactory, except that with potentially fewer AK/SK's being assigned to the Squadron for Deep Freeze '64, it is recommended that ComNavSuppFor Antarctica take action to provide adequate storekeeper personnel for the cargo handling operation at Christchurch.

3. Cargo.

a. The Supply Department handled and shipped aeronautical and associated material during Deep Freeze '63 as follows:

Shipping Point	Destination	Weight	Mode of shipment
Davisville	Christchurch	347,960	Surface
Davisville	McMurdo	180,035	Surface
Davisville	Christchurch	58,514	Air
Christchurch	McMurdo	116,000	Air
McMurdo	Byrd Station	12,900	Air

b. The following cargo was backloaded:

Shipping Point	Destination	Weight	Mode of shipment
McMurdo	Christchurch	86,735	Air/Surface
McMurdo	Quonset Point	187,560	Air/Surface
Christchurch	Alameda	44,490	Surface
Christchurch	Quonset Point	104,650	Air/Surface
McMurdo	Mayport	20,900	Surface

c. Every effort was made to expedite return of critical repairable material to overhaul points as it was generated. Although all commands cooperated to the fullest extent, it was not until January that space was available to ship 44,789 pounds of critical repairable material from Christchurch to CONUS aboard the USS MERRILL.

d. It is noted that the cargo manifesting procedures for cargo shipped from Davisville were far superior to previous years. Loss and damage to cargo was minimal and manifests were extremely accurate. An internal cargo reporting system was found necessary for cargo shipped by aircraft from Christchurch to McMurdo due to the inaccuracy of message cargo reports.

4. Facilities and storage

A. McMurdo - Facilities are considered inadequate due to the necessity of storing large quantities of high cost items that are subject to weather damage in outside storage areas and lack of adequate flamable material storage.

b. Christchurch - Total area of space is considered adequate. Adequate security storage is required to preclude loss of Antarctic clothes and survival equipment.

5. Communications, cargo handling and transportation

a. McMurdo

(1) Communications are much improved over previous operations through installation of a dial telephone system. The addition of radio communications between the McMurdo Supply Office and Williams Field Supply Annex would solve remaining problems.

(2) Cargo handling, within the Supply Department, was, as in previous years, a serious problem. Although Antarctic Support Activities rendered all possible assistance within their capabilities, the lack of a permanently assigned Pettibone or Traxcavator continually brought supply cargo and stores handling to a halt pending the arrival of equipment. A Caterpillar Model 966A Lift is considered ideal for the requirements existing at McMurdo. Due to the urgency of operations and the short operating season, the lack of adequate cargo handling equipment is considered to be a false economy. Safety of personnel, morale, the volume of operation and the short operating season all combine to dictate that immediate measures be taken to alleviate this situation.

(3) Transportation was barely adequate. Altered and cancelled Shuttle Bus schedules resulted in many man hours being expended to

accomplish the supposedly simple task of moving a piece of material the three miles from McMurdo to Williams Field.

b. Christchurch

(1) Communications and cargo handling equipment was considered satisfactory.

(2) Considerable difficulty was experienced by the Supply Department due to the lack of permanently assigned transportation. In the interest of improving operations it is recommended that the following vehicles be assigned to the Supply Department:

One Pickup or 1½/2 ton truck

One elevated (scissors type) truck

6. Funds. The Squadron Bravo Optar was located at Christchurch with feeder reports being submitted from McMurdo and Quonset Point. No Difficulties were experienced with allotment record keeping. Bravo funds were utilized to some extent for emergency repair to Ground Support equipment and aircraft and for procurement of goods and services when considered imperative.

7. Procurement. Logistics channels were established with NSC Oakland, NAS Barbers Point and MCAS Kanehoe Bay for emergency procurement of aircraft parts while deployed. NSC Oakland was particularly responsive to requirements except that in numerous instances, parts were shipped to Quonset Point contrary to the instructions of the requisition. Corrective action was taken by the command several times but with little results. It is highly recommended that prior to the advent of DEEP FREEZE '64, liaison be established with NSC Oakland to preclude this situation in the future.

8. Special Clothing.

a. All Antarctic clothing was issued to AirDevRon SIX personnel at Christchurch; replacement items were available at McMurdo. Used cloth-

ing was turned in at McMurdo, with the exception of an individual survival outfit, which was turned in at Christchurch.

b. $1,500.00 of NAS Quonset Point Station Alfa funds were utilized to provide renovation functions for used clothing. It is estimated that approximately 50% of all clothing issued was recovered in new or renovatable condition.

c. A Clothing Evaluation Committee was established with the mission of evaluating all clothing items for suitability, range and quantities issued to individuals. Some items were deleted and other minor recommendations were made. When and if suitable clothing issue spaces are available at McMurdo, it is recommended that minimum quantities be issued at Christchurch and all replacement and "fill" items be issued at McMurdo.

d. It is recommended that adequate security stowage be provided at Christchurch.

e. Numerous items of clothing were issued to personnel attached to Helicopter detachments aboard Ice Breakers. It is recommended that Helicopter Squadrons participating in Deep Freeze operations be provided clothing prior to their arrival in the Antarctic.

9. Supply Operations

a. The following numbers of issues were made during the operating season:

Type of Issue	McMurdo	Christchurch
Aeronautical	1,032	1,269
General and electronics	1,009	460
Other activities	62	152

b. Except for parts associated with structural failures, only one AOCP was experienced during the season.

c. Christchurch - During the operating season, all LC-130F spares were federalized and integrated with other aeronautical material. A complete wall to wall inventory was completed, with items being relocated and current Federal Stock Numbers assigned. Through relocations and consolidation of items, approximately 6,000 square feet of space was made available for other purposes.

d. McMurdo - The majority of effort was expended in reducing multiple locations, restowage and updating federal stock numbers on stock and on stock records. All stock was screened for overage, applicability and usage. Spot inventories were taken of approximately 10% of all items.

e. Stock Records - Duplicate sets of IBM type stock record cards were prepared at Quonset Point prior to deployment. During the operating season duplicate postings of prior demands, issues, obligations and balances were made. This system enabled the Department to return one set of records to Quonset Point for reprovisioning. This system will conserve manhours and provide accurate information for intelligent reordering of supplies.

f. Backload - In addition to overage items, approximately 30 items of high cost, critical Ground Support Equipment were backloaded as excess for distribution to other Aviation Activities.

g. Preliminary work was accomplished at Christchurch and McMurdo on proposed revisions to the squadron's tailored allowance lists.

XIII

PUBLIC INFORMATION - PUBLIC RELATIONS

1. General

a. The pre-deployment period at the Naval Air Station, Quonset Point, Rhode Island, was spent in writing and up-dating various guides and booklets used by the squadron personnel during the summer support phase of Operation Deep Freeze 63. Numerous tours were conducted and presentations made to visiting groups aboard the air station; the squadron's Antarctic Museum was a highlight of these tours and presentations. Readying and improving the museum and its spaces was one of the special task undertaken by the Public Information Officer, assisted by the Assistant Public Information Officer. Talks and presentations were also given by the Assistant Public Information Officer and the Chief Journalist to outside groups during the summer period while at Quonset.

b. In July the squadron presented the Mariners Museum of Newport News, Virginia, (headed by Rear Admiral George DUFEK, USN, (Ret.), one-time COMNAVSUPPFOR Antarctica) with Antarctic relics from the 1907 Shackleton Expedition. This presentation was picked up by the wire services and appeared in leading newspapers, including the New York Times.

c. General news coverage of the squadron continued during the pre-deployment period. The office produced several feature items during this time and placed them in various publications including "NavAirNews" and ComNavAirLant's annual "Air Power" brochure.

d. The office attempted and was successful in utilizing the services of the local Providence TV Stations, including a special half-hour program over WJAR-TV in September. The efforts of ComFair Quonset's PIO greatly aided the squadron's Public Information/Public Relations Office in bringing

about these "TV specials". By the same token, the office supplied copy and pictures for inclusion in TV programs prepared by ComFair Quonset PIO such as "The Navy in Rhode Island". Because of the groundwork laid early in the season, the squadron was able to get TV coverage on the local stations for the "homecoming" at the end of Operation Deep Freeze 63. AirDevRon SIX was subsequently featured on "Community" (WTEV) on 21 March 1963.

e. Numerous contacts were made with radio stations, in particular WLKW and WKFD, which gave the squadron a "market" for spot news items and announcements.

f. After the squadron actually deployed on 7 September 1962, the Public Information Officer was stationed at Christchurch, New Zealand, with the C-121J for the entire season. At one point he assumed the duties as O-in-C of Det Christchurch, temporarily turning over the duties of PIO to another officer. The Assistant PIO and the two journalists were at McMurdo Station for the entire season, while the part time assistant (E-4) remained at Christchurch for the entire season as part of that detachment.

g. During deployment, emphasis was placed on news and feature writing and the home town program was followed through with marked success. In many instances short news items and special features sent to home town newspapers were well recieved and run in their entirety.

h. In early December, the squadron PIO personnel borrowed tape recorder and made taped Christmas Greetings for NBC Monitor to be aired at Christmas time. This pointed up a need for a tape recorder for use by PIO, especially in the area of tape-recorded interviews for home town radio stations.

2. Comments

a. AirDevRon SIX, as evidenced by numerous reports and clippings from newspapers, magazines, etc., again enjoyed the enviable record of having most of its material published throughout deployment.

Much of the squadron's material was fed through Task Force 43's national and international mailing program which sent material to more than 143 news media including newspapers, magazines, radio and TV stations, throughout the world. The list of media is made up of correspondents who physically came in contact with Operation Deep Freeze in the past three operations and have requested that they be mailed releases. Recognizing the importance of this list, the Public Information Office of AirDevRon SIX continued to include the Task Force 43 mailing list in its file of pertinent media.

b. The division continued to aid visiting correspondents and newsmen on the ice, by gathering the information and photographs desired by them to complete their particular tasks and assignments. Proof that this type of assistance is worthwhile appeared in the special issue of Pacific Stars and Stripes which was dedicated entirely to Operation Deep Freeze with a special section on the men and planes of AirDevRon SIX.

c. Prior to leaving the ice, the Chief Journalists arranged with the O-in-C of Det Alfa to set aside a particular space for PIO at McMurdo Station to be located topside in the new helo hangar. The office will be fitted with tables and file cabinets sufficient for PIO's use and the space will be shared with the squadron's Leading Chief.

d. Perhaps the most difficult undertaking attempted by the Public Information/Public Relations Office was the publication of the first cruise book (100 pages) entirely dedicated to the squadron and its efforts in Deep Freeze 63.

3. Conclusion. It can be concluded that the Public Information efforts of AirDevRon SIX were successful during Operation Deep Freeze 63. Two items - the planned homecoming of the squadron (which included band, TV, refreshments, banners), and the special squadron cruise book, should receive consideration

in future programs; to ensure success, personnel concerned must be given sufficient time, working space and assistance as much "behind the scene" effort is required.

XIV

MORALE AND RECREATION

1. Introduction

a. The morale of personnel assigned to this command during DEEP FREEZE 63 was considered to be excellent. In spite of the fact that recreation and living conditions were less than desirable, the personnel maintained a high degree of morale and spirit.

2. General

a. At McMurdo, personnel utilized the station library, attended the evening movies, completed correspondence courses in their spare time and made use of the lounges available to them. Evening movies were shown in the station theater, Chief Petty Officer's quarters and the Wardroom.

b. The "ham shacks" located both in the main camp and at Williams Field continued to be very popular during DEEP FREEZE 63.

c. The religous needs of personnel were well cared for at McMurdo and the other stations with the availability of both a Catholic and Protestant Chaplain.

3. Comments and Recommendations

a. The bowling alley located at McMurdo was again used as a berthing area during the summer support season. If this could be used for its intended purpose during DEEP FREEZE 64, the recreation facilities would be increased considerably.

b. In view of the long and odd working hours of all personnel, it is recommended that a separate building at the main camp and one at Williams Field be set aside as recreation areas.

c. Due to the slow and uncertain transportation from Williams Field

to the Main Camp, it is recommended that an Exchange service be operated at Williams Field more often than one afternoon a week.

d. The "steam bath" constructed at Williams Field during the summer support season proved to be a great morale booster and it is recommended that it be continued in DEEP FREEZE 64.

XV

MEDICAL

1. General

a. The Medical Department of AirDevRon SIX (VX-6), during DEEP FREEZE '63, was composed of a Flight Surgeon and six corpsman;(one HMCA, one HM1, three HM2's and one HM3).

b. The following items were accomplished by the Medical Department during the pre-deployment period at NAS Quonset Point: annual physical examinations, aircrew physical examinations, Antarctic physical examinations, for summer support and wintering over personnel,immunizations, resupply of aircraft first aid kits, ordering of sunglasses and the prescribed medical ground training of officers and enlisted personnel.

c. One corpsman deployed to Christchurch, New Zealand, in August 1962, to assist Staff Medical Officer reopen the Dispensary at Harewood Airport. The Flight Surgeon and the remaining corpsmen deployed with the main squadron contingent. Because of the relatively large squadron detachment, one corpsmen was stationed at Byrd Station during the summer support season and proved to be invaluable to the operation. At least one corpsmen (and for most of the summer support season, two corpsmen) were station at the Dispensary at Christchurch, New Zealand. The Sick Bay at NAF Williams Field, Antarctica, was maintained by the Squadron Flight Surgeon and three corpsmen, two of whom were members of the Para-Rescue Team. One corpsman was transfered during midseason on PCS orders.

2. Medical Facilities

a. The medical facility atHarewood Airport, Chirstchurch, New Zealand, was observed only briefly by the Squadron Flight Surgeon, but the quality and quantity of medical care was markedly improved over DEEP FREEZE '62.

Medical problems from the Antarctic Continent and New Zealand which required extensive evaluation or therapy were, for the most part, either cared for in local Christchurch hospitals or evacuated to major military medical facilities. Due to the number of squadron personnel (180 - 200) based at Christchurch, it is recommended that a duty medical officer be provided to stand an on-board watch at this dispensary,

b. The medical facility at NAF Williams Field, Antarctica, was a minimal sick call and casualty screening facility, contained in a 16 X 40 foot Jamesway which was capable of housing four corpsmen. This was, for the most part, adequate for its intended purpose, although the mass casualty screening function was fortunately not tested. The limitation of this facility became obvious as the season progressed, as transportation to and from the main camp at McMurdo and its medical facility became increasing difficult. The plan for a sick bay incorporated in a trailer did not materialize. It is recommended that a facility of this type be provided for the next season to increase the scope of medical care available at NAF Williams Field.

c. For the majority of personnel requiring admission to the sick list, the McMurdo Station Dispensary was utilized; laboratory, x-ray, and Dental facilities were available at this dispensary.

d. The ambulance for NAF Williams Field, a Nodwell vehicle which is maintained and operated by the Crash Crew, "threw" a rod in early December 1962, and did not operate for the summer support season because of the lack of spare parts. An operating vehicle for use as an ambulance, is satisfactory but is considered to be minimun standard of support which is acceptable in this area.

3. Phychiatric Screening of Personnel

a. For the second year, mass psychiatric screening was not carried out on squadron personnel prior to deployment. Questionable cases were evaluated

by psychiatric consultation before deployment. There were instances, however, where personnel were not deployed to Antarctica on a precautionary psychiatric basis. A close liaison between the Squadron Medical Officer and Division Officers and Chief Petty Officers in regard to adaptability of the individual man existed and should be continued in this regard.

b. Psychiatric screening of wintering over personnel was carried out and will be continued. (See Paragraph 5).

4. Pre-deployment Physical Examinations

a. The following items were eliminated from pre-deployment physical examination: routine white blood cell count, differential white blood cell count, hemoglobin, hematocrit and blood sedimentation rate; no pathological processes which would have been disclosed by these laboratory tests became manifest during the deployment. The limited value of these tests as health screening procedures is well known and it is recommended that they be eliminated as routine from the entire Task Force. The Kahn, urinalysis and chest x-ray examination are Bureau of Medicine and Surgery requirements for physical examinations and should be continued.

5. Wintering Over Detachment

a. For the first time the Squadron Medical Officer had an opportunity to observe members of a wintering over detachment before and after the six month isolation period. This particular Detachment Alfa was composed of exceptionally strong individual personalities and therefore performed as a group in an outstanding manner. As a group they accomplished a great deal of work in modification and improvement of the squadron spaces and equipment. This group activity carried over into their off-duty hours and resulted in extensive socializing. Morale, therefore, remained

relatively high because each member supported and in return was supported by the group. However, the individual who accomplished much in the way of study, advancing himself professionally or even getting "caught-up" professionally, was the exception rather than the rule. The human mind needs stimulation and apparently this stimulation during the long winter night is subdued. Wintering over does not appear to be a growth experience for the majority of individuals.

b. It is therefore recommended that the size of the wintering over detachment be reduced to an absolute minimum and that their work be carefully programmed to ensure sufficient work for each individual for the entire period. It would be most desirable to investigate the possibility of eliminating this detachment if at all possible.

6. NAF Williams Field Camp

a. The living facilities at NAF Williams Field are of a temporary nature and up until now had been reestablished each year. It is recognized that at the present time it is impractical to attain the standards of living which are in keeping with the highest tradtion of the United States Navy. However, every attempt should be made at progressive improvement to make the living conditions as comfortable as possible, especially for the men who have to live there for a six month period each year.

b. There are two distinct population phases for this camp. The first is from September to early December when the Air Force is operating in Antarctica and the strip camp population swells to over 300 men. Then in the second half of the season the camp supports a reduced number of about 175 officers and men.

c. Head. The one toileting facility at NAF Williams Field contained three urinals, four dental lavatories and five dry water closets (an attempt at using one flush toilet proved to be impractical). No one has to be reminded how this compares with even the minimum of standards set up by the Navy's Bureau of Medicine and Surgery. Actually this was a reduction in facilities available over the previous season. There were, however, noticeable improvements in the aesthetics of the toileting facility. In general, however, because of the volume of personnel using this head, it was extremely difficult to keep clean and remained relatively untidy. It is painfully obvious that there are not even enough toileting facilites to take care of the needs of a modest number of men in a relatively short period of time. This is especially critical during the first portion of the season. The largest single problem in maintaining the head was keeping the area outside clean from toilet paper and at times of scattered feces. This debrie was in such a position that it was tracked into the mess hall and into the scullery, indeed a deplorable situation. It is again recommended that the commode and bathing facility be separated and expanded. It is also recommended that a shipboard type running sea water commode and urinal be constructed. This would remove the smell so common to Antarctic heads, reduce the work incurred by the "honey bucket" system and provide excellent sanitation.

d. Steam bath. A pleasant addition to the camp this year was a steam bath adjacent to the head. This single facility was an outstanding contribution in maintaining morale and it is recommended that this be made universal in Antarctic camps where feasible.

e. Galley. The galley operation went quite smoothly this season. In general, the quality of food and its preparation was excellent, the

nutritional balance was adequate and the menu was served as advertised. The modest facility, however, taxed early in the season, definitely reflecting in the palatability of the food served. There was marked improvement along this line in the second half of the season. The food preparation section should be expanded to cope with the early season volume of personnel to be messed.

f. Scullery. The dish washing facility operated very efficiently this season with the incorporation of a new sanitizing unit. Additional storage space for the dish racks are required, however.

g. Water. The snow used for melting into water was obtained from an area in back of the camp which was relatively free of human traffic. The resulting water was quite potable, minimally chlorinated and uncontaminated the entire season. Adjacent to the area of snow mine was a food cache which because of breakage of the boxes was frequented by Skuas. Eventually the site of the snow mine had to be changed because the immediate area was turned into a cargo yard late in the season increasing the danger of snow contamination. The lack of water reserve was a constant problem,, especially during the early part of the season; not necessarily because of the rationed fuel supply. At each instance that the strip camp facility was taxed for various and sundry reasons, the available water ran out or it became dangerously low. The need of a constant water supply and an adequate reservior of potable water is an axiom in the scheme of living in Antarctica and it is a folly to constantly hover on the brink of a critical water supply. It is, therefore, strongly recommended that additional water storage be incorporated into the water system at NAF Williams Field. Also, that a vehicle be maintained solely for the purpose of obtaining snow for melting into water.

h. Quarters. There was considerable improvement in the bunking spaces over DEEP FREEZE '62. Smaller, i.e., 16 section Jamesway units were used representing 512 square feet of floor space with 2 to 3 sections used as a lounge area. Twelve double bunks were placed in the sleeping area. The allotted floor space per man did not quite meet BUMED Manual standards, but this had been anticipated. The most critical item in this regard is, of course, the volume of air for each man in this space. The arched structure of the Jamesway and the lack of ventilation in these spaces leaves much to be desired. The small circulating fans did not help noticeably. One of the biggest problems in the Jamesway Huts is the fact that the floor boards became progressively uneven as the season progressed, especially under the stoves. This led to, among other things, a serious fire hazard and is caused by the lack of proper supports of the floor sections of the buildings. If these structures continue to be used, the floor should be reinforced. Actually, however, living spaces of a more permanent nature (possibly similar to T-5 type buildings) would be far more desirable and probably cheaper to maintain in the long run.

7. Medical Situation

a. There was continued expansion of the NAF Williams Field Sick Bay this past season leading to a modest increase in the variety of medicine practiced. For the first time the facility was used for an occasional inpatient, most commonly for an individual who required observation or for those who had ailments which did not require extensive care. In addition an elementary laboratory was installed, which proved to be quite efficient and useful.

b. The squadron has been advised that a trailer has been purchased for use as the NAF Williams Field Sick Bay, and is now located at Davisville, R.I. It is planned that the essential interior construction will be accomplished prior to deployment so that it will be ready for use when it arrives at McMurdo next year. It is planned that this trailer will contain at least two bunks for patients, a small laboratory and an x-ray unit.

c. The diseases seen in sick bay during the summer support season this year followed the same pattern as reported for previous deployments. On the average, there were approximately 125 first visits to sick bay per month, with a higher volume in the early months.

d. The health of the squadron's personnel was, in general, good, resulting in a minimum of lost man hours due to illness and grounding. Rigid screening of personnel should continue and any personnel with a significant medical problem, who can not be relieved of his duties in VX-6 before deployment, should be placed in a situation in keeping with common sense and which will not jeopardize the health of the individual.

e. There was no significant freezing injury in squadron personnel during during this deployment.

f. Last year it was recommended that a limited trained surgeon, i.e., a Medical Officer with at least 2 years of formal surgical training be billeted at McMurdo Sound, Antarctica. It was pointed out that the life endangering medical problems in Antarctica were almost uniformily surgical in nature, especially from traumatic injury. This season a situation arose in which a person developed acute perforative appendicitis and air evacuation was not possible. The difficult surgery in this case was performed by a ships Medical Officer who had training in surgery. We were indeed fortunate to have such a Medical Officer available at that time. It is again very

strongly recommended that a Medical Officer with surgical training be billeted at McMurdo. The time, effort, money, and possibly lives saved by this man would be an invaluable contribution to Operation DEEP FREEZE.

8. Sunglasses

a. Each year more pilots are using single gradient sunglasses for flying. A constant complaint is that the G-15 double gradient density sunglasses interfere with efficient and comfortable viewing of the aircraft instruments. This becomes especially critical in the landing phase of flying. As a result the glasses, sun, man's spectacle type, RM8465-753-6261-LF50, were used with increasing frequency among aviation personnel. Since the actinic rays of the sun which are responsible for snow blindness are essentially filtered by the canopy glass of the aircraft, there is really no need for the "beefed-up" G-15 double gradient density sunglasses for flying personnel. Therefore, the RM8465-753-6261-LF50, are proabably satisfactory for this group of men. It is therefore recommended that the Staff Medical Officer review the sunglasses requirements for the various jobs in this operation and make adjustments accordingly.

b. The Kalichrome C, single gradient density sunglasses issued were completely worthless again this year and were not used by a single pilot the entire season. During the season, however, an experimental set of these glasses with light transmission ranging from 7% to 22% were evaluated. In general, the higher the light transmission the more frequently the glasses were used. The glasses with 22% light transmission were actually used to advantage for landing in poor surface definition conditions with favorable comments by the aviators. It is the continued impression of the VX-6 Flight Surgeon that these yellow glasses are valuable for flying in Antarctica and that they should be continued to be made available; i.e., those glasses which provided at least 22% light transmission.

9. Recommendation

a. Because of the limited value of the white blood cell count, differential white blood cell count, hemoglobion, hematocrit and blood sedimentation rate as routine screening procedures be eliminated as requirements for physical examination from the Task Froce.

b. The possibility of eliminating Det Alfa be serious evaluated.

c. The commode and bathing facilities at the NAF Williams Field camp be expanded and separated. Also that a shipboard type running sea water commoce and urinal be incorporated.

d. Where possible all Antarctic camps construct steam baths.

e. Additional water storage tanks be incorporated into the NAF Williams Field camp. Also, that a vehicle be maintained solely for obtaining snow for melting into water.

f. It is recommended that investigation be conducted for the purpose of obtaining a more permanent type of structure (possibly similar to T-5 type building) for the living spaces at NAF Williams Field.

g. A Medical Officer with surgical training be billeted at McMurdo.

h. The sunglasses requirements of the various jobs in this operation be seriously and realistically reviewed by the Staff Medical Officer with the idea of utilizing less expensive glasses for a significant number of personnel.

i. Kalichrome C, single gradient density sunglasses with at least 22% transmission of light be obtained to replace the present glasses used for poor surface definition conditions in Antarctic flying.

j. The duty midical officer at Harewood Dispensary, Christchurch, New Zealand be provided to stand an on-board watch.

k. A trailer medical facility be provided for NAF Williams Field for next season.

l. A vehicle for use as an ambulance at NAF Williams Field be maintained in operating condition, even at the expense of other ground support equipment.

XVI

DENTAL

1. General

a. The Dental Department of AIRDEVRON SIX (VX-6) consists of a Dental Officer and one DT2.

b. Prior to deployment, Squadron personnel were examined, using radiographs and intra-oral examination. Those requiring treatment were given appointments in an effort to have all work completed while in CONUS. The problems of TAD, school, and late reporting, as in previous years, once again prevented a full realization of this goal.

c. The Dental Officer and Dental Technician were deployed to New Zealand on 5 October 1962.

2. Deployment

a. The Dental Clinic is located in the Dispensary at Harewood Airport, Christchurch, New Zealand.

b. Equipment on hand included a standard unit and operating light and the instruments from a standard dental field kit. Also available were a standard dental chair and X-Ray unit that were usable, but not in good working order. During the first week of November, an air turbine handpiece, air compressor and high volume evacuator were installed, and full-scale operative dentistry was possible. Endodontic therapy and periodontal thorapy, except for minor procedures, were not available due to lack of equipment, but it is anticipated that they will be available for next year. Except for minor repairs, prosthetic treatment will not be available at this clinic.

c. USARP personnel whose preliminary examination in CONUS indicated dental treatment was necessary were re-examined in Christchurch. Those who had not received necessary treatment were referred to civilian dentists

in the area for this treatment, and then examined again before leaving for McMurdo.

d. Daily Dental Sick Call was held Monday through Saturday. Those patients requiring routine dental treatments were given appointments with the Dental Officer. Emergencies were handled immediately. Those patients who required treatment not available at the clinic were sent to civilian dentists in Christchurch. For military patients, this treatment was performed at government expense. 337 patients were treated in the clinic in Christchurch during the time that the Dental Officer was deployed.

e. Seven days were spent working aboard the USS GLACIER in Lyttleton. Her Medical Officer had requested assistance from the Squadron Dental Officer because there was no Dental Officer aboard and there were many men complaining of dental problems. The U.S.S. ATKA came into port with a similar problem. In this case, a Dental Technician was sent to the ship to conduct examinations, and those patients requiring treatment were brought to the clinic in Christchurch. It was necessary to hold one man at the clinic in order to complete necessary treatment, and send him to meet his ship in McMurdo.

f. The Dental Officer left Christchurch on 20 December 1962 to return to N.A.S. Quonset Point.

3. Conclusions

a. The Squadron Dental Officer and Dental Technician can be effectively utilized at the clinic in Christchurch, both to assist the Staff Medical Officer in examining personnel coming through Christchurch on their way to Antarctica and also to render dental treatment to personnel stationed at Christchurch, as well as those in transit to Antarctica, whose work was not completed in CONUS.

b. Dental standards for duty in AIRDEVRON SIX should be strict and

rigidly adhered to by examining facilities. It is not possible to adequately prepare personnel at Quonset Point with so many demands on the men's time in the pre-deployment period.

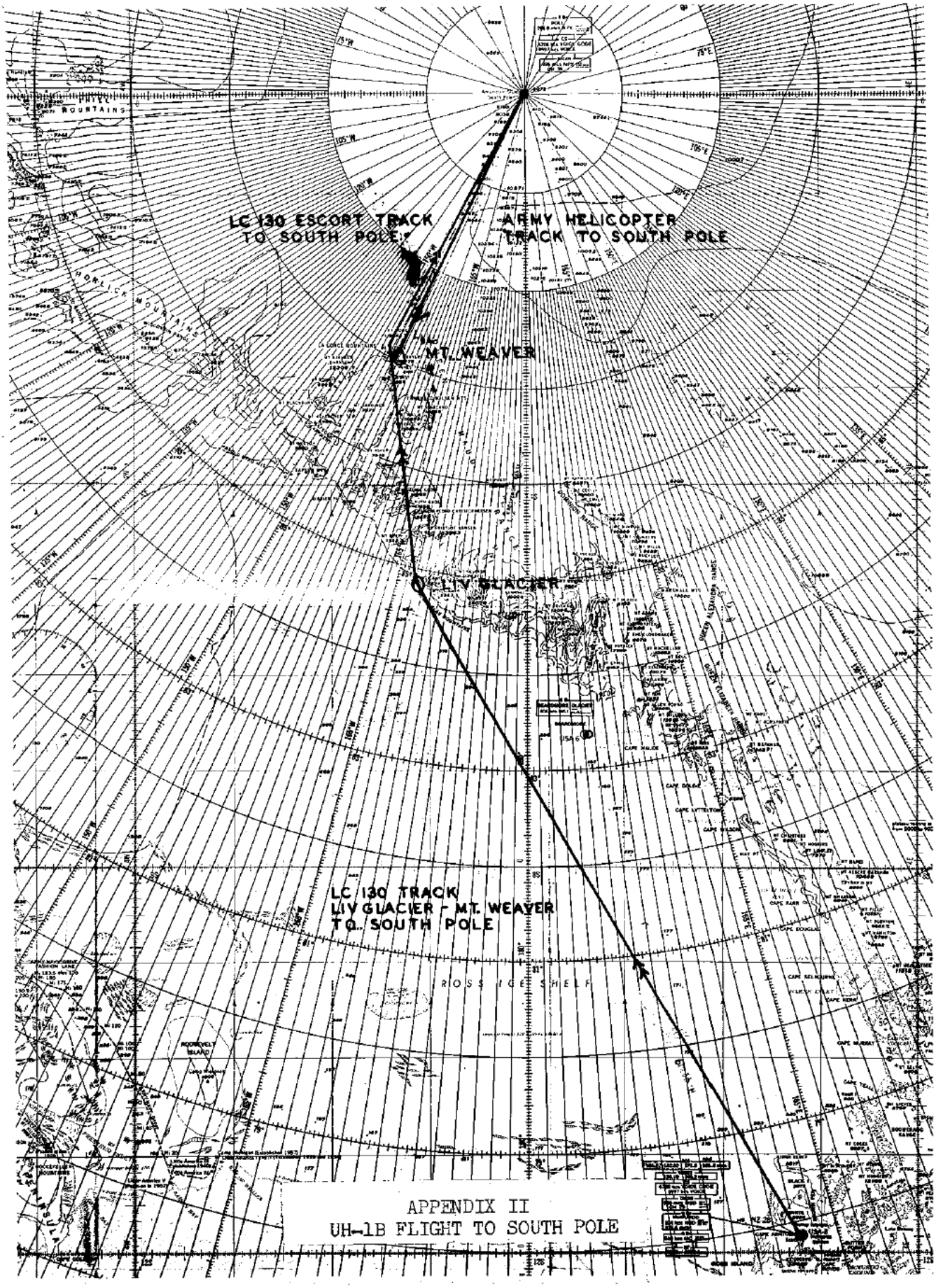
c. A followup examination on USARP personnel requiring treatment should be done in the U.S., and not delayed until arrival at Christchurch.

LC-130F CARGO AND PASSENGER DATA

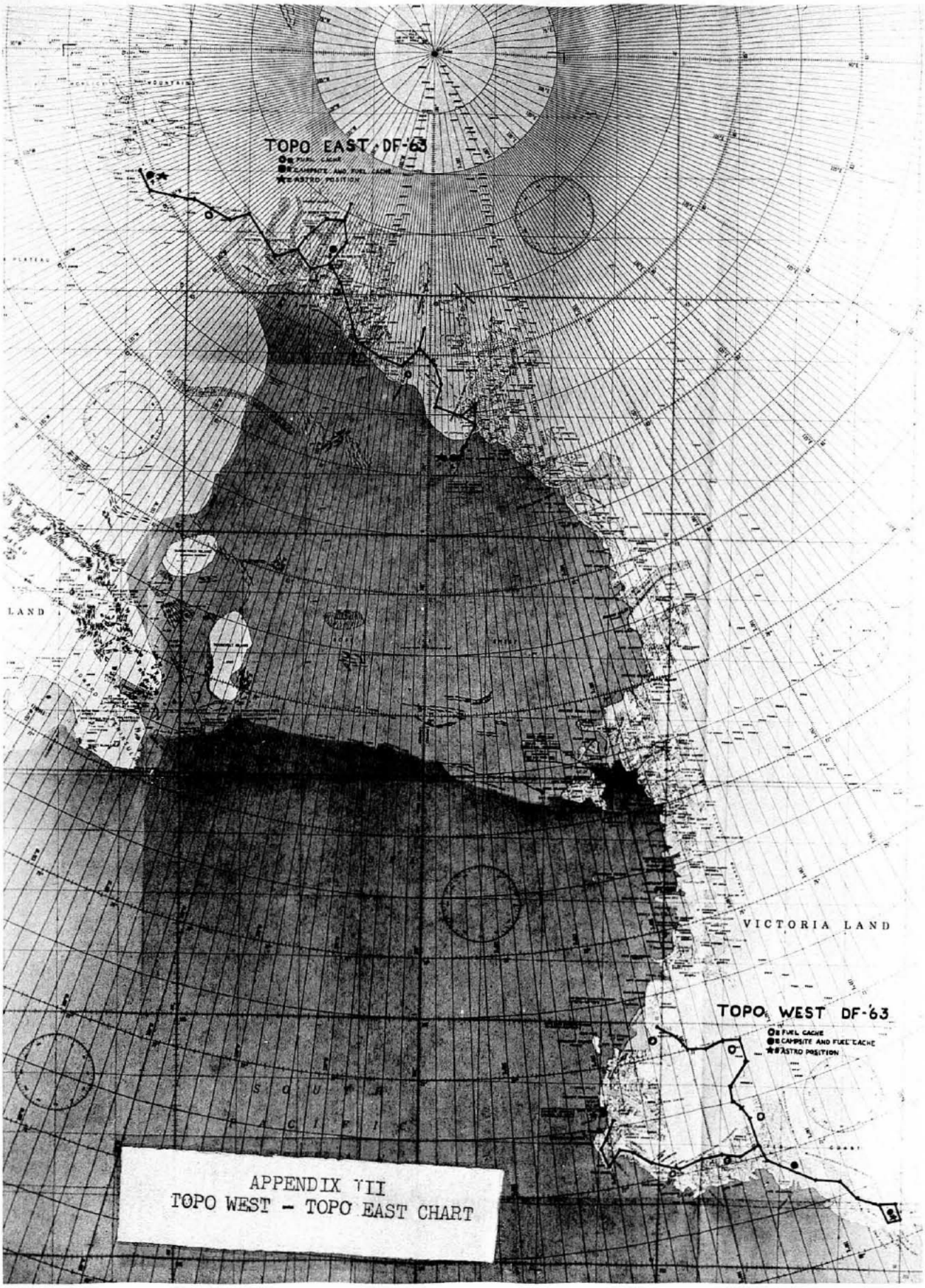
STATION	FLIGHTS	CARGO TONNAGE HAULED	NO. PSGRS * CARRIED	TOTAL CARGO AND PSGRS	CARGO TONNAGE BACKLOADED	NO PSGR* BACKLOADED	TOT CARGO AND PSGRS	GRAND TOTAL
POLE	107	1187.29	460	1244.79	97.71	470	156.46	1401.25
BYRD	195	2007.54	530	2073.79	239.36	441	294.49	2368.28
BYRD-AURORAL SUB-STA	3	31.14	0	31.14	0.0	0	0.0	31.14
EIGHTS	40	291.56	118	306.31	52.30	121	67.43	373.74
HALLETT (Plus TOPO WEST)	6	68.48	38	73.23	4.68	15	6.56	79.79
BEARDMORE (Plus TOPO EAST)	12½	133.62	66	141.87	19.94	71	28.82	170.69
LITTLE ROCKFORD	7	35.36	52	41.86	6.12	56	13.12	54.98
ELLSWORTH (Sentinel) Mts.	5	30.80	8	31.80	5.00	15	6.88	38.68
TOPO EAST (Horlick Mts.)	3½	31.23	2	31.48	0.38	3	0.76	32.24
PENSACOLA Mts.	3	12.80	5	13.43	4.88	5	5.51	18.94
Sub-Total, Inland Stations	382	3829.82	1279	3989.70	430.37	1197	580.04	4569.73
QUONSET-CHCH QUONSET	4	24.71	15	26.59	13.32	13	14.95	41.54
CHCH-MARIETTA-CHCH	4	1.14	24	4.14	13.60	22	16.35	20.49
CHCH-MCMURDO-CHCH	26	99.08	216	126.08	34.35	266	67.60	193.68
Sub-Total	34	124.93	255	156.81	61.27	301	98.90	255.71
TOTAL	416	3954.75	1534	4146.51	491.64	1498	678.93	4825.44

*PSGRS computed at 250 lbs each

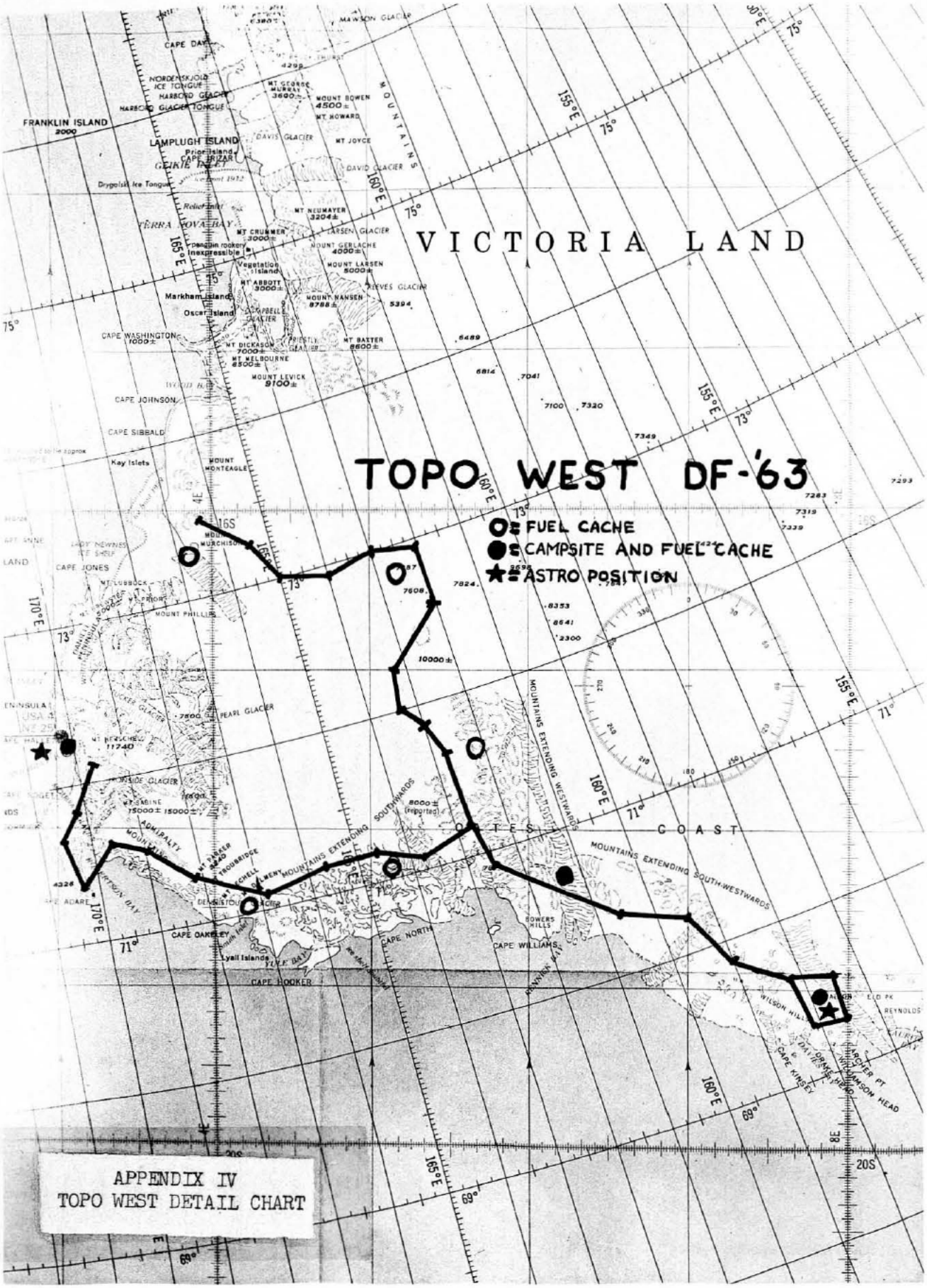
APPENDIX I

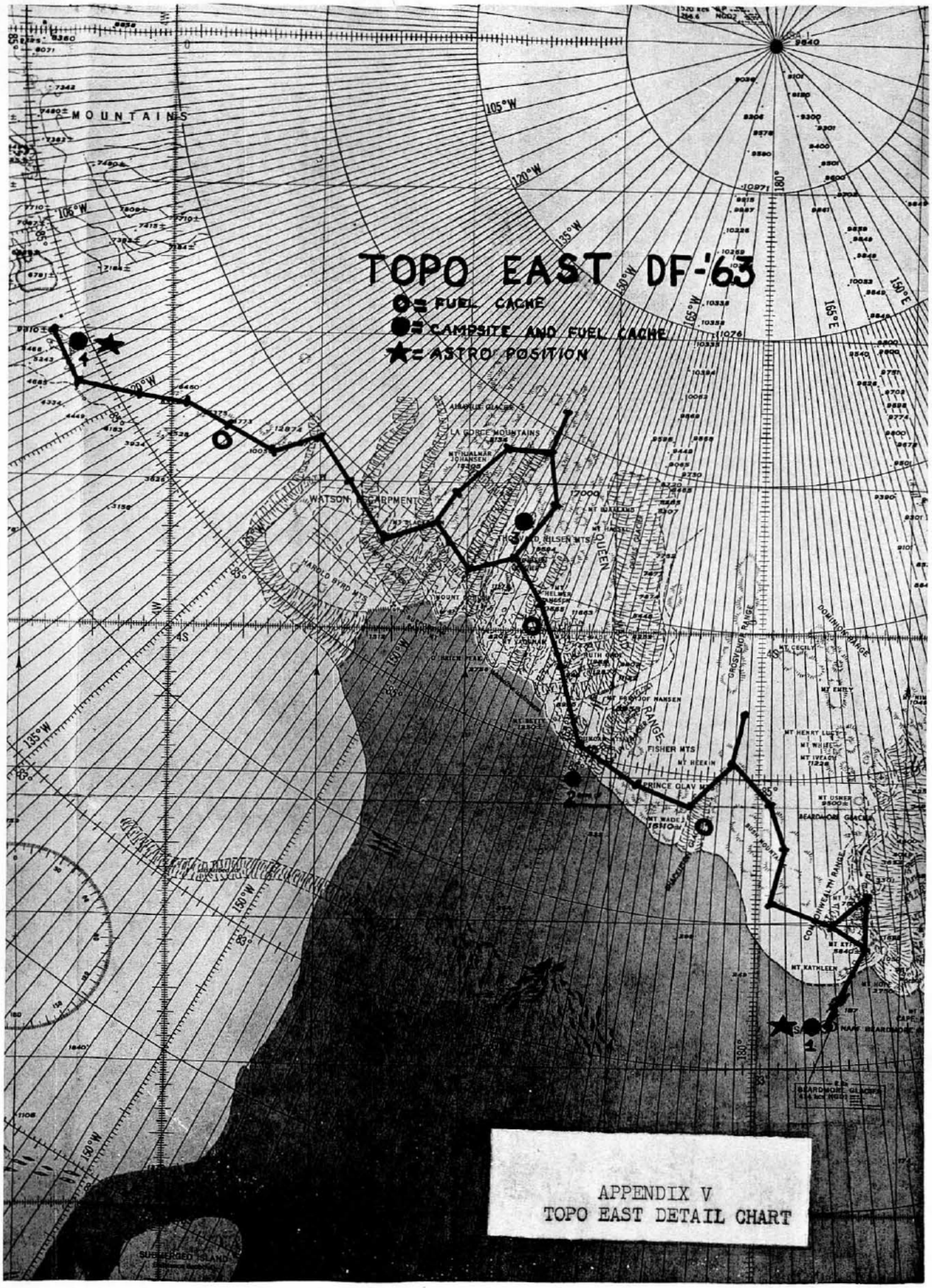


APPENDIX II
UH-1B FLIGHT TO SOUTH POLE

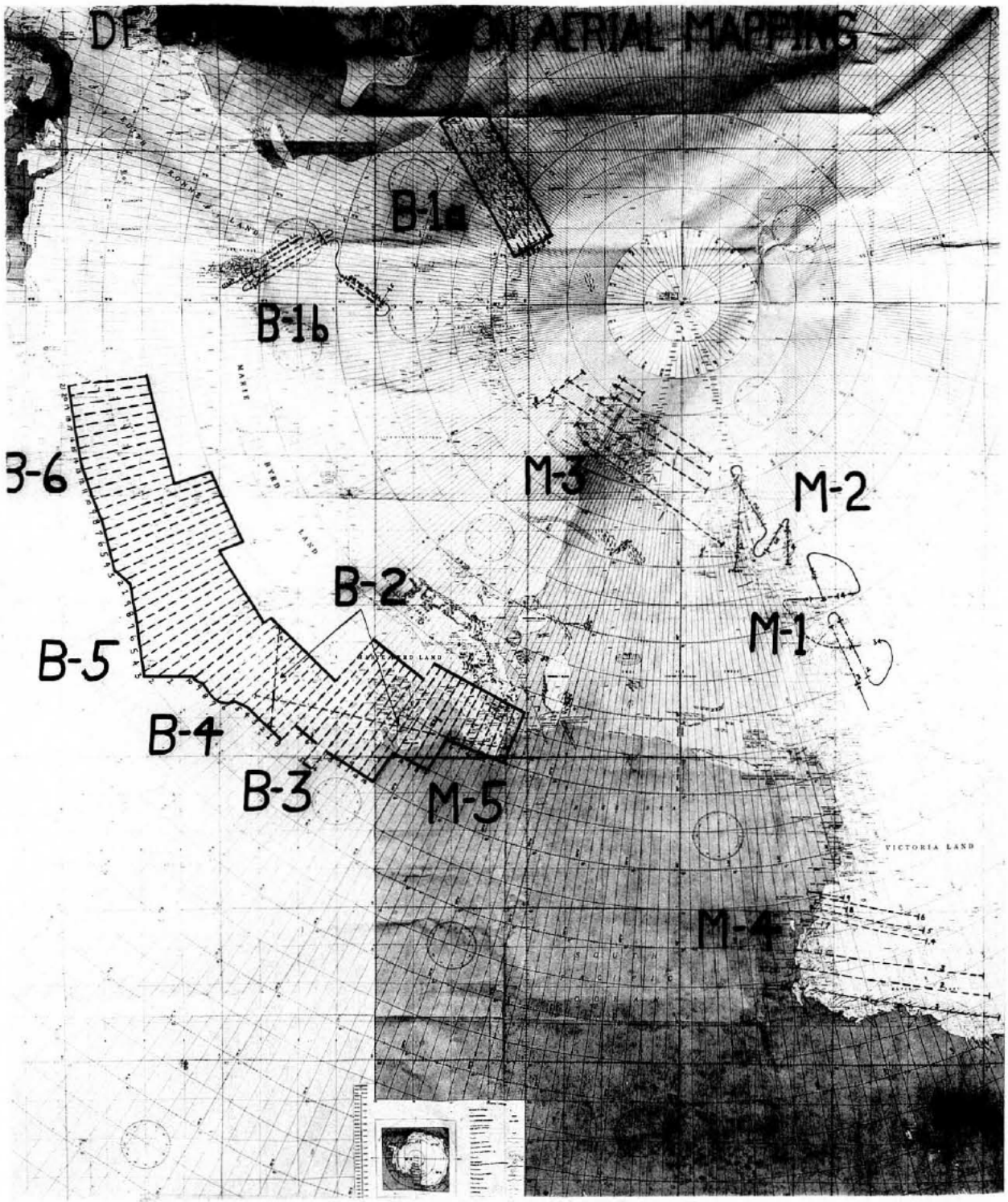


APPENDIX VII
TOPO WEST - TOPO EAST CHART

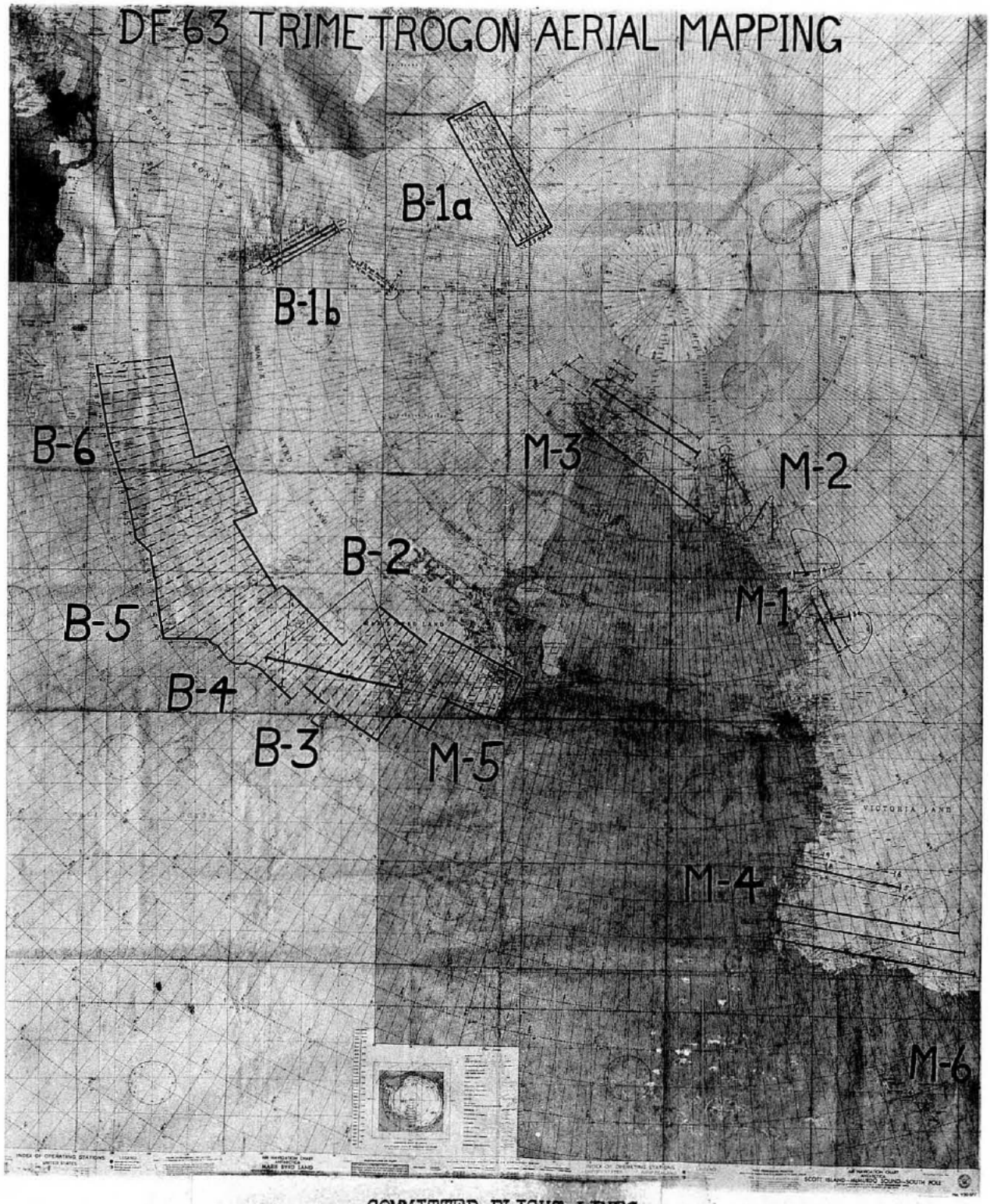

VICTORIA LAND
TOPO WEST DF-'63
FUEL CACHE
CAMPSITE AND FUEL CACHE
ASTRO POSITION
FRANKLIN ISLAND
LAMPLUGH ISLAND
CAPE DAY
CAPE WASHINGTON
CAPE JOHNSON
CAPE SIBBALD
CAPE JONES
CAPE OAKELEY
CAPE NORTH
CAPE WILLIAMS
CAPE HOOKER
CAPE KINSLEY
MOUNTAINS EXTENDING SOUTHWARDS
MOUNTAINS EXTENDING WESTWARDS
MOUNTAINS EXTENDING SOUTH-WESTWARDS
COAST
ADMIRALTY MOUNTAINS
MOUNTAINS
MAWSON GLACIER
DAVIS GLACIER
DAVID GLACIER
LARSEN GLACIER
REEVES GLACIER
PEARL GLACIER
MOUNT BOWEN
MT HOWARD
MT JOYCE
MT NEUMAYER
MT CRUMMER
MOUNT GEBLACHE
MOUNT LARSEN
MOUNT NANSEN
MT ABBOTT
MT DICKASON
MT BATTER
MT MELBOURNE
MOUNT LEVICK
MOUNT MONTEAGLE
MOUNT PHILLIPS
MOUNT LUBBOCK
MT SABINE
Markham Island
Oscar Island
Kay Islets
Lyall Islands
BOWERS HILLS
WILSON HILLS
ARCHER PT
WILLIAMSON HEAD
DAVIDSON HEAD
REYNOLDS
APPENDIX IV
TOPO WEST DETAIL CHART



APPENDIX V
TOPO EAST DETAIL CHART



——— COMMITTED FLIGHT LINES
APPENDIX VI

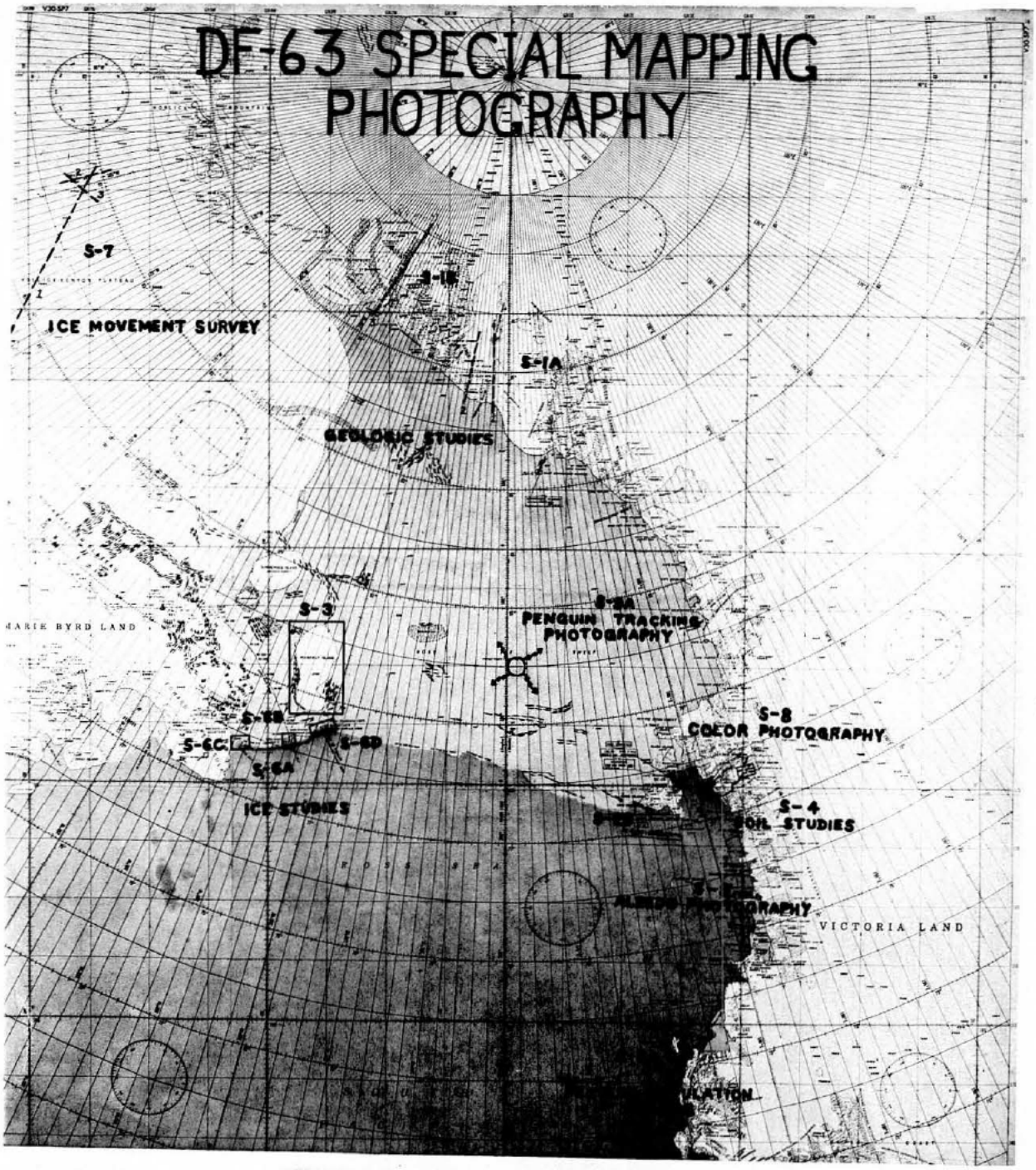


CODE:

COMMITTED FLIGHT LINES

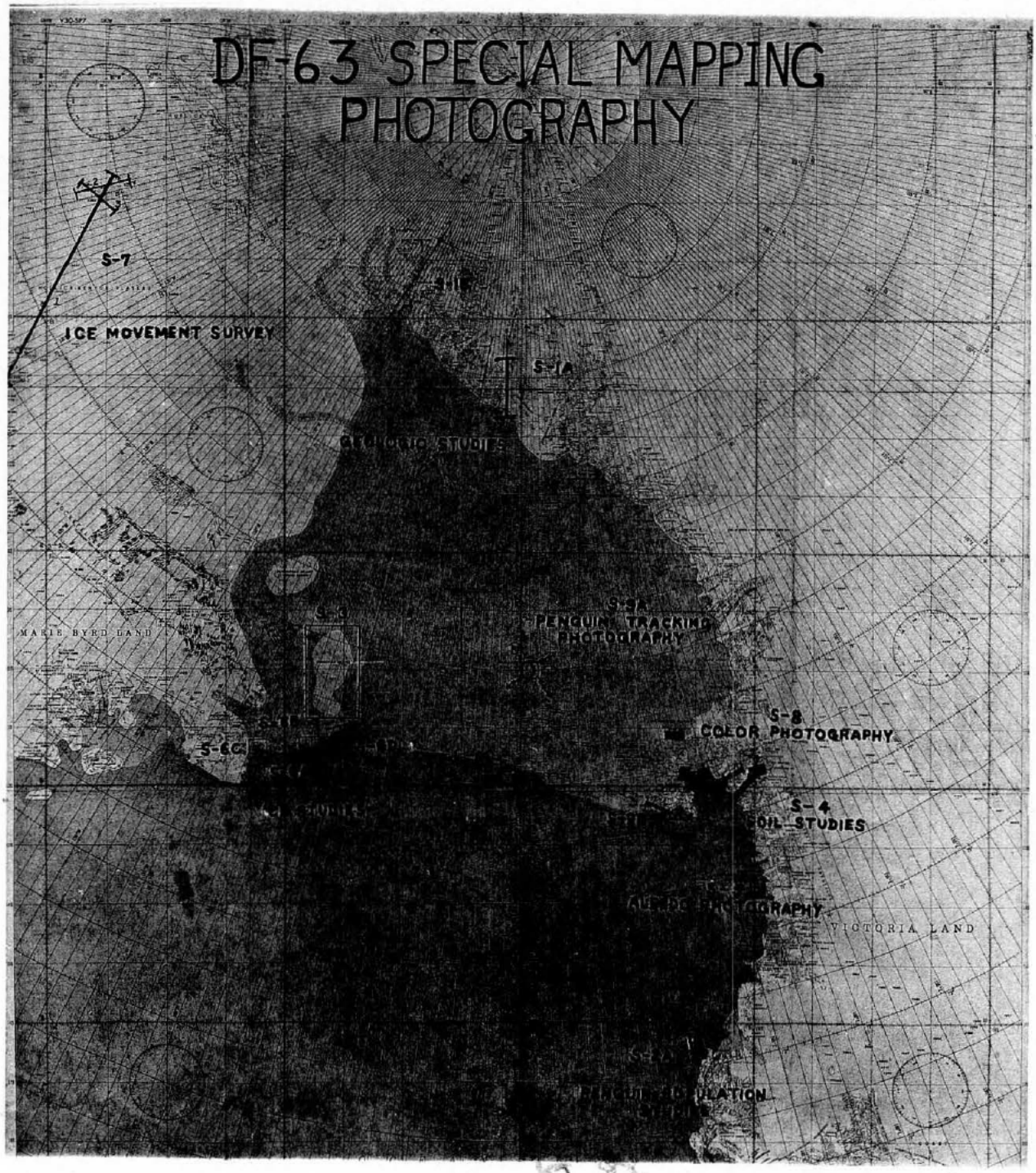
FLIGHT LINES FLOWN

APPENDIX VII



COMMITTED AREA

APPENDIX VIII


DF-63 SPECIAL MAPPING PHOTOGRAPHY
S-7
ICE MOVEMENT SURVEY
S-1A
MARIE BYRD LAND
S-3A
PENGUIN TRACKING PHOTOGRAPHY
S-8
COLOR PHOTOGRAPHY
S-4
SOIL STUDIES
VICTORIA LAND

ADDENDUM TO
AIR DEVELOPMENT SQUADRON SIX (VX-6)
REPORT OF OPERATION DEEP FREEZE 63

ADD CHAPTER XVII TO THE ABOVE AND
TO THE TABLE OF CONTENTS

XVII

PERSONNEL AND ADMINISTRATION

1. Personnel listed below participated in operation Deep Freeze 63 and were permanently attached to Air Development Squadron SIX (VX-6), (TG43.2).

NAME/RANK/RATE	SER./FILE NO.	LOCATION AND ASSIGNMENT
(b) (6) [redacted]		MCM - LC130 AC
		MCM - SPL PROJ
		CHCH - AV EQUIP
		QUON - P/P LH34D
		MCM - LP2J
		MCM - FLT TRNG LC130 AC
		MCM - ASST ADMIN LC130 AC
		MCM/HAL - SURV UC-R4D
		MCM - NAV
		MCM - LINE OPS LC130 AC
		MCM - NAV
		MCM - FLT TRNG -LC130 AC
		MCM - NAV
		MCM - AST PERS C54Q
		MCM -LC130 AC
		MCM - PHOTO
		MCM - 1st LT LC47 AC
		MCM - NAV
		CHCH - PUB REL C121J AC
		CHCH - C121J
		CHCH - SPL PROJ R7V
		MCM/BYD - AST OPS LC117D
		CHCH - NAV
		MCM - AVIONICS
		MCM - FLT LC47 AC
		MCM - NAV
		MCM - A/F
CDR William H. EVERETT	(b) (6)	MCM - CO LC130 AC
(b) (6) [redacted]		MCM - OPS LC130 AC
		MCM - AST MAINT
		MCM/BYD - COMM P2V
		MCM - ASST SAFETY P2V
		MCM - MED
		MCM/BYD - AST ADM LP2J
		MCM - ASST PHOTO
		MCM - AST ADM LC130 AC
		MCM - MAINT
(b) (6) [redacted]		MCM - ASST OPS LC130 AC
Capt (b) (6) [redacted]	USMC	MCM - LC130 AC

(b) (6)

[redacted]

HCH - IC130AC
CM - SHOPS/HANGAR IC130 AC
HCH/QP - DEN
CM - XO IC130 AC
CM - NAV
CM - SUP - LOGISTICS
CM - ASST A/C MAINT IC130 AC
CM - AIR INTEL IC130 AC
CM/BYD - IC117D
CM - I&E IH34AC
CM - IC47J
CM - R4D
CM - PERS IH34 AC
CM - MAINT PLAN IC130 AC
MCM - IC130 AC
HCH - C54 AC
CM - NAV
CM - SPL PROJ
CM - NAV
CM/CHCH - TERM OF IC130 AC
CM - IH34D/IC47H
CM - NAV
CM/BYD - NAV
CM - NAV
HCH - ADMIN HUS/UC1
CM - SAFETY HUS/HSS
CM - NAV
CM - IH34 AC
CM - OPS ADM IC130 AC
HCH - AST SUPP
CM - AST I&E NAV
HCH - MIL TRAIN C121 AC
QP - OINC QONT DET
HCH/MCM - NAV
CM - QC P2V

CHCH - GALLEY SUPER
CHCH - GALLEY
MCM - PLANE CREW R4D
MCM - CARGO
CM - MAINT ADMIN/WO CLERICAL
CHCH - BRAVO ALLOTMENT
CM - LOADMASTER IC130F
MCM- TECH LIBRARY
BYRD- R4D P/C
CHCH - POWER PLANTS

CM - PLANE CREW R4D
CM - AT SHOP SUPER
CM - AF SHOP/WINTERING OVER
CM - PARA RESCUE
CHCH - MAINT CHIEF
CM - ADMIN

(b) (6)

[redacted]

MCM - HELO CREW
QP - 1st LT SUPER
CHCH - LOGS & RECORDS MAINT
MCM/CHCH - IC130F ENGINEER
CHCH - MASTER AT ARMS
MCM - AV/PLANE CREW R4D
MCM - PLANE CREW HELO/W. O.
CHCH - METALSMITH
MCM - MESSMAN/CARGO
CHCH - PHOTO LAB
MCM - MESSMAN/CARGO
CHCH - MASTER AT ARMS
BYRD- MEDICAL
MCM - GROUND SUPPORT SUPER
MCM - GROUND SUPPORT
QP - MAINT CONTROL SUPER
CHCH - METALSMITH
MCM - GROUND SUPPORT
QP - ICPO
MCM/CHCH - IC130F ENGINEER
MCM/BYRD- MEDICAL
CHCH - ENGINE BUILDER
CHCH - DISBURSING
MCM - MESSMAN/TRAIN YN
MCM/CHCH - IC-130F RM
CHCH - PERSONNEL/I&E
MCM - PHOTO LAB
MCM - HELO CREW
QP- PERSONNEL
MCM - MESSMAN/COMMISSARY
MCM - PLANE CREW R4D
CHCH - STAFF
MCM - MAINT CONTROL
MCM/CHCH - MED SUPER

(b) (6)

[redacted]

MCM - PLANE CREW IC130F
MCM - ELECTRONICS
CHCH - METALSMITH
MCM -- BOQ
CHCH - STAFF &AT SHOP
MCM - SUPPLY SUPER
MCM - AIR FRAMES
MCM - PLANE CREW/OPS
MCM - LINE CREW
MCM - PIC SUPER
CHCH - SUPPLY
MCM - PLANE CREW IC130F
MCM - PHOTO LAB
MCM - WEATHER FACILITY
BYRD- LINE CREW
MCM - GROUND SUPPORT
CHCH - GROUND SUPPORT
MCM - PLANE CAPT R4D

(b) (6)

[redacted]

MCM - ELECTRONICS
CHCH- PARACHUTE SUPER
CHCH- PARALOFT
CHCH- MAINT ADMIN
CHCH- GALLEY
MCM - MAINT CONTROL
CHCH- PLANE CREW/R7V
CHCH- PHOTO
CHCH- ELECTRICIAN
MCM - QUAL CONT SUPER
MCM - GROUND SUPPORT
CHCH- SUPPLY/SUPERVISORY
BYRD- METEOROLOGIST
MCM - CARGO SUPER
MCM - PLANE CAPT./OTTER
CHCH- POWER PLANTS
MCM - ICPO
MCM - AIRFRAMES
MCM - ELECTRONICS
CHCH- R7V CREW
MCM - PL. CR./LC-130F
MCM - PLANE CREW
CHCH- FLT ELECT.
CHCH- PERSONNEL
MCM - MAINT MATERIAL
MCM - PHOTO LAB SUPERV.
MCM - AIRFRAMES
MCM - CARGO
MCM - PL. CR./RADIOMAN R4D
MCM - LOADMASTER/LC-130F
MCM - ICPO
MCM - OPS YEOMAN
MCM - MAINT CONTROL
MCM - MESSMAN
MCM - GROUND SUPPORT/AE
MCM - PL. CR./FLT MECH
MCM - CARGO
CHCH- METALSMITH SHOP
MCM - PL. CAPT./R4D
MCM - R7V CREW
MCM - COOK
MCM - LC-130F MECH/FLT CREW
CHCH- COMM/RADIOMAN
BYRD- LINE CREW/FUELS
MCM - FLT CREW/LC-130F MECH
MCM - GROUND SUPPORT
CHCH- TF-43 POSTAL CLERK
MCM - METALSMITH/R7V PL. CR.
QP - RADIOMAN/COMM
MCM - PL. CR./TECH/LC-130F
CHCH- ELECTRICIAN SHOP
CHCH- METALSMITH SHOP
MCM - PL. CAPT./MECH
CHCH- SUPPLY/SUPERVISORY

(b) (6)

[redacted]

MCM - FLT TECH/R4D
MCM - FLT TECH/LC-130F
MCM - MESSMAN
MCM - LOADMASTER/LC-130F
MCM - ELECTRICIAN SHOP
MCM - SUPPLY
MCM - POWER PLANTS
MCM - LINE CREW
MCM - ELECTRIC SHOP
MCM - MESSMAN/RADIOMAN
CHCH- LEADING CHIEF
MCM - MAINT MATERIAL
MCM - CPO IN CHARGE/METALSHOP
MCM - GROUND SUPPORT
MCM - COOK
CHCH- POWER PLANTS
MCM - FLT & SHOP ELECTRICIAN
MCM/CHCH-PLANE CREW/RADIOMAN
MCM - METAL SHOP
MCM - PLANE CREW/LOADMASTER
MCM/BYRD-MESSMAN/OPS YEOMAN
MCM - FLT MECH/LC-130F
QP - MAINT CONTROL
MCM - METALSMITH
CHCH- SUPPLY
MCM - HELO CREW/SUPERVISOR
MCM - HELO CREW
MCM - GALLEY
MCM - PHOTO LAB
MCM/BYRD-R4D CREW
MCM - IN CHARGE OF SURVIVAL
MCM - MEDICAL
CHCH- ELECTRICIAN SHOP
CHCH- POWER PLANTS
QP - MAINT SHOP
CHCH- POWER PLANTS
MCM - CARGO/MAINT CONTROL
MCM - CARGO
MCM/CHCH- SUPPLY SUPERVISOR
MCM - MECH/SHOP WORK
CHCH- SUPPLY
MCM - METAL SHOP
CHCH- GALLEY
MCM - PHOTO LAB/P2V PLANE CREW
MCM - PLANE CAPTAIN/R4D
MCM - PLANE CREW/P2V
MCM - MESSMAN
MCM - MESSMAN/CARGO
MCM - R5D METALSMITH/ PL CR
MCM - AVIONICS/TELE. OPERATOR
MCM - FLT MECH/LC-130F
MCM - FLT ELECT/LC-130F
MCM - METAL SHOP
MCM - SHOP ELECTRICIAN

(b) (6)

[redacted]

CHCH- METAL SHOP
MCM - WEATHER FACILITY
MCM - WEATHER FACILITY
CHCH- PHOTO/CLERICAL
MCM - SUPPLY/WO
CHCH- MAINT MATERIAL
MCM - ELECTRIC SHOP
MCM - RADIOMAN/CLERICAL
MCM - LOADMASTER/PL. CR
MCM - PLANE CREW/LC-130F
MCM - MAINT CONTROL/CPO, LEAD
MCM - PLANE CREW/LC-130F
CHCH- TF-43 MASTER AT ARMS
MCM - LOADMASTER/ LC-130F
CHCH- SUPPLY
MCM - PLANE CREW/LC-130F
MCM/CHCH- COOK
MCM - CARGO
CHCH- PIO/CLERICAL
MCM - MESSMAN/CARGO
MCM - DISBURSING
MCM - CLER./PHOTO LAB
MCM - METAL SHOP
QP - LEADING CHIEF
MCM/CHCH-PHOTO LAB
MCM - MESSMAN
CHCH- ELECTRIC SHOP
MCM - CARGO
MCM - CARGO/SUPER. DRIVER
MCM - SUPPLY
MCM - PARALOFT
MCM - FLT CREW/C-130 LOADMAS.
MCM/CHCH- SUPPLY SUPER.
MCM - PARALOFT
MCM - LC-130 F PL. CR.
BYRD/MCM- METALSMITH, LC130F
MCM/CHCH- MEDICAL
MCM - MEDICAL
MCM/BYRD- SECOND MECH/P2V
MCM - AK/STOCK CONTROL
MCM - METALSHOP
QP - SUPPLY STUB DESK
MCM - ELECTRIC SHOP
CHCH- COOK/GALLEY
MCM - MESSMAN/CARGO
MCM - PERSONNEL SUPERV.
CHCH- ELECTRIC SHOP
MCM - QUALITY CONTROL, SHOP C
MCM - COOK/GALLEY
MCM/CHCH- TECH ADVISORY
CHCH- AK/INVENTORY MATERIALS
MCM - COOK/GALLEY
MCM/LITTLE ROCK, WEATHER FAC.
MCM - COOK/GALLEY

(b) (6)

[redacted]

MCM - SUPPLY
MCM/BYRD- PLANE CAPTAIN/P2V
MCM - LC-130F FLT MECH
MCM - CARGO HANDLER
MCM - HELO CREW/SHOP ELECT.
MCM - SWITCH BOARD TECH
MCM - PLANE CAPTAIN/C-130
CHCH- POWER PLANTS
QP - SCHOOL
MCM - PHOTO LAB
MCM - FLT MECH/HELO CREW
MCM - ADMIN SUPERVISOR
CHCH- AK/CUST. & SPEC. CLOTH.
MCM - PLANE CAPTAIN/C-130
CHCH- COOK/GALLEY
MCM - ADMIN SUPERVISOR
MCM - PHOTO LAB/PL. CR. R5D
MCM - HELO CREW/PLANE CAPT.
MCM - ELECTRIC SHOP
MCM - ELECTRIC SHOP
MCM - PL. CR. R4D
MCM/QP- MAINT ADMIN/CARGO
MCM - METALSMITH/PL. CR.
BYRD - PLANE CREW/P2V
MCM - MESSMAN/CARGO
CHCH- PL CR/SECOND MECH
MCM - CARGO
MCM - PHOTO/TOPO EAST & WEST
MCM - WEATHER FACLITY
MCM - FLT ELECT/PL CR C-130
BYRD/MCM- PL CR, ELECT.
MCM - PIO/CLERICAL
MCM - SUPPLY
CHCH- METAL SHOP
MCM - AVIONICS/POWER PLANTS
MCM/CHCH- CARGO
MCM - SUPPLY
MCM - ELECT SHOP/MAINT CHIEF
CHCH- PLANE CREW/R7V
MCM - LCPO & BOQ'S
MCM - PLANE CREW/LC-130F
MCM - PLANE CREW/RADIOMAN/R4D
MCM - POWER PLANTS
CHCH- QUALITY CONTROL IN CHARG
MCM - PLANE CREW
MCM/BYRD PHOTO/PLANE CREW
CHCH- ELECTRIC SHOP SUPERV.
CHCH- GALLEY SUPERVISOR
CHCH- MASTER AT ARMS
MCM - RADIOMAN/PL CR R4D
MCM - ELECTRIC SHOP
CHCH- MAINT MAT. CHIEF/SUPERV.
MCM - AVIONICS/WINTERING OVER
MCM - GROUND SUPPORT
MCM - LINE CREW IN CHARGE
MCM - HELO CREW

(b) (6)

[redacted]

MCM - MAINT CONT//WORK SEC SUP
CHCH- POWER PLANTS
MCM - SUPPLY
MCM - MESSMAN
MCM - OPERATOR SWITCH BOARD
MCM - GROUND SUPPORT
MCM/BYRD- PARALOFT/W. O.
MCM - C-130 CREW MECH
MCM - MAINT ADMIN SUPERV.
MCM - C-130 ELECTRICIAN
QP - MAINT WORK
CHCH- METALSHOP
MCM - POWER PLANTS & GR. SUP.
MCM - HUS PLANE CAPTAIN
CHCH- TAD TASK FORCE 43
MCM - CARGO
MCM - PERSONNEL
MCM - MESSMAN/CARGO
MCM - C-130 METALSMITH
MCM - AVIONICS
MCM - ELECTRIC SHOP
MCM - PLANE CREW C-130
QP - PERSONNEL/SUPERVISORY
MCM - SUPPLY
CHCH- PHOTO/SUPERV/CLERICAL
CHCH- ADMIN/CLERICAL
MCM - P2V PLANE CREW
MCM - MESSMAN/CARGO
MCM - MESSMAN/CARGO
MCM - PERSONNEL/CLERICAL
MCM - SUPPLY
MCM - PERSONNEL/CLERICAL
QP - SUPPLY SUPERVISOR
MCM - MESSMAN
QP - SUPPLY
MCM - LINE CREW
MCM/CHCH-METALSHOP
MCM/BYRD- PLANE CREW/R4D
MCM/CHCH- PARALOFT/ W. O.
MCM - PLANE CREW C-130
MCM/BYRD-PL CR/RADIOMAN P2V
CHCH- PHOTO LAB
MCM - ADMIN CLERICAL
MCM - PLANE CREW
MCM - PL CR/RADIOMAN P2V
MCM - PLANE CREW/HUS 1 B
CHCH- TASK FORCE 43 STAFF
CHCH- SUPPLY/SHOP
MCM - PHOTO
MCM - HELO CREW
MCM - SUPPLY
MCM - C-130 PLANE CREW
CHCH- R5D PLANE CREW
MCM - WINTERING OVER

(b) (6) [redacted]

QM - SUPPLY/SHOP WORK
MCM - MESSMAN/CARGO
MCM - PHOTO
CHCH- R7V CREW

U.S. MARINE CORPS PERSONNEL

(b) (6) [redacted]

MCM/CHCH- C-130 NAVIGATOR
MCM/CHCH- NAVIGATOR
MCM/CHCH- RADIOMAN
MCM/CHCH- C-130 NAVIGATOR
MCM/CHCH- R5D MECHANIC
MCM - R4D NAVIGATOR
MCM - C-130 NAVIGATOR
MCM - C-130 & R4D NAVIGATOR
MCM - C-130 NAVIGATOR