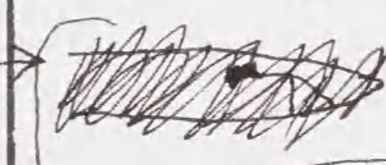




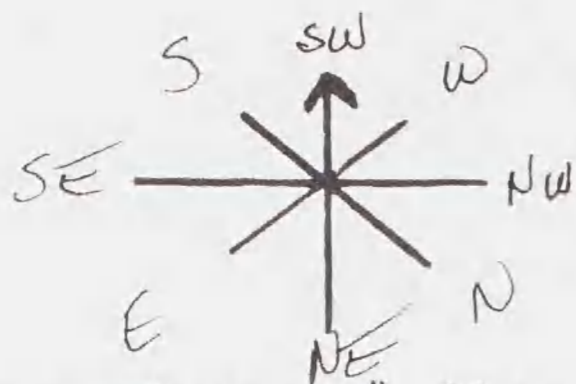
DATE 7 December, 1964
Pg. # 1

time	species	#	dir.	hgt.	remarks	loc.
1335					begin watch at entrance to Harbor	
1342	Jaeger?	1				
1403	Pomarine Jaeger	2	S	low	light phase, 1 adult; 1?	
1421	BLACK-FOOTED ALBATROSS	1	following	low.	Lt. PHASE	
1439	POMERINE JAEGER	1	S	Low	Imm or sub-adult. Lt. Phase	
1500	POMERINE JAEGER	1	S	40'	" " " " (ALBATROSS STILL FOLLOWING)	
1509	" "	1	NW	60'	Adult - Lt. Phase	
1516	JAEGER SP.	2		Low		
1533	POMERINE JAEGER	3		0'	 white mottling  white MOULTING POMERINES - IMM., seen closely at 1547 (10). Seem smaller than previously seen Jaegers (Pomerines) faster wing beats than Pomerine, whitish at base of tail - underneath dull gray but Pomerine pattern.	
1540	POMERINE JAEGER	2		0'	2 Light Phase, 1 dark - JOINED BY 2 JAEGER SP. OF 1516 AT GORRAGE.	
1541	" "	1		0'	Lt. Phase	
1550					Lt. Phase	
1553	Pomarine JAEGER	1	SW	50'	GROUP OF 9 Pomarine JAEGERS PASSED SHIP GOING WSW. - dark Phase	
1554	WEDGETAILED SHEARWATER	1	SW	Low		
1556	Pomarine Jaeger	1	SW	40'	dark Phase	
1557	" "	1	"	"	distant.	
1607	" "	1	"	100'	dark Phase	
1610	" "	1		25'	Light Phase	
1615	" "	1	SSE	50'	Dark Phase	
1621	" "	1	"	60'	Dark ph.	
1629	" "	1	ENE	20'	Dark Phase bird still with immature feathers around sides of belly and under upper tail coverts	
1633	" "	3	SE	20'	one landed on water beside the albatross which had just landed; all 3 flew away together again, again one landed, dunking its whole head & neck under water for 10 seconds. Flow.	
1640	" "	3	"	20'	Semi-adults	



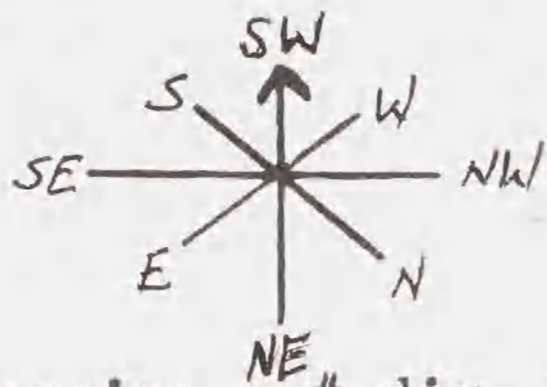
DATE 7 Dec 1964
Pg.# 2

time	species	#	dir.	hgt.	remarks	loc.
1644	Pom. Jaeg.	3	SW	15'	landed on water	
1645	Cook's Pet	1	follows ship	low	very white neck	
1654	Blue-faced b.	1	SW NW	low	Imm.	
1655					same 3 jaegers, presumably.	
1700	wedgetail shearwater	1	E	low	*	
1730	Pom Jaeg	6	SW	15'	Imm.	
1735	Wedgetail	3	SW	low		
1744	POMERINE JAEGER	10	(IN AREA) ⊙	LOW	- 1 collected R.S.S.	
1754	—				Sunset complete with green flash	
1805	Red-footed Booby	2	⊙		flying around ship trying to land still around at 1830 and later both immature	
		4?				



DATE 8 DEC. 1964
Pg. # 1

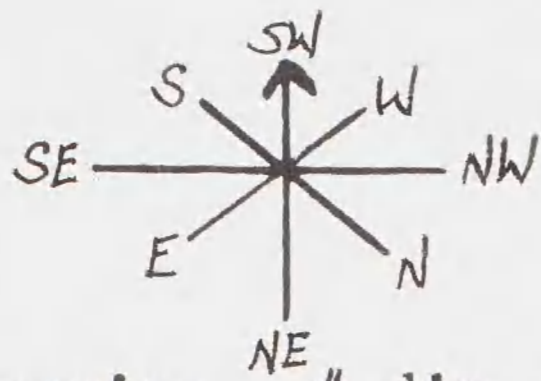
time	species	#	dir.	hgt.	remarks	loc.
0748	Red-footed Booby	1	low	NW	Immature	
0756	Sooty Tern	2	low	W		
0701	" "	8	W	low		
					Apparent Sunrise ca 0700	
0715	Tern	1	E	low		
0715	wedge-tail shearwater	2	NE	"		
0722	" "	1	ESE	"	flying fast + in a straight line (towards flock?)	
0740	Flock				Actively feeding over large school of fish probably Aka (yellow fin tuna)	
10						
0751	Sooty tern	48			may have been some Noddy Terns	
	wedge-tail shearwater	6 ± 1				
	Terns	10 ± 2				
	all dark shearwater	1			either Christmas Island or slender-billed	
0751	white-tailed Tropicbird	1			feeding	
0805	" "	1	ca	75'		
0806	WEDGETAILED SHEARWATER	1	NE	Low		
0807	RED-footed BOOBY	1	ca	Low	- Imm.	
0819	" " "	1		60'	- Collected MT (Possibly SAME BIRD AS 0807)	
0826	SOOTY TERN	2	N	Low		
0826	FAIRY TERN	1	E	30'		
0908	LEACHES/HARCOORT'S STORM PETREL	1	W	Low		
0920	Pterodroma	1	NE	Low	- DISTANT	
0926	SOOTY TERN	2	W	Low		
0926	WHITE-TAILED TROPICBIRD	1	ca	60'		
0928	SOOTY TERN	1	N	Low	- Feeding	
0948	WHITE-TAILED TROPIC BIRD	4	ca	100'	- 1 Collected MT	
1005	Wedgetail	1	NE	Low		
1008	Wh-Tail Trop	2	SW	100'		



DATE 8 Dec. 1964

Pg. # 2

	time	species	#	dir.	hgt.	remarks	loc.
FF	1015	Sooty tern	30 ±3			collected 1 Sooty tern	
		Fairy tern	3				
		Wedgetail	3			sitting on water	
		Comm Nodd	7				
	1020	Red-F Booby	1	NE	10'	Imm.	
	1029	Tern	1	SW	low		
	1031	Sooty tern	2	SW	low		
	1031	Storm petrel	1	SW	"	Leach's or Hancock's	
FF	1035	sooty tern	115 ±10				
		Fairy tern	2				
		wedgetail	12			collected 1 Wedge tail shearwater	
		R-F Booby	1			Imm flock feeding on small silver fish	
		Frigate	4				
F	1104	Sooty tern	40 ±10			Distant; not seen feeding	
		Fairy tern	2				
		Frigate	2				
	1105	Storm petrel	1	SE	low	Leach's or Hancock's	
	1113	B-Faced Booby	1	S	"	Imm.	
	1120	Sooty tern	1	S	30'		
F	1125	Sooty tern	19				
	1129	Wedgetail	1	NE	low		
	1130	Cook's/Bonin	1	NE	"		
F	1138	Tern	30 ±10			Distant	
		Frigate	1				
	1138	Sooty tern	2	NE	low		
	1317	Storm Petrel	1	2		Leach's/Hancock	
F	1328	SOOTY TERN	10	NE	TO 60'	-Not Feeding	
	1330	WEDGETAILED SHEARWATER	1	W	LOW		
	1337	SOOTY TERN	2	E	LOW		
	1343	RED-footed BOOBY	1	⊙	TO 40'		
	1402	BONIN IS. PETREL	1	WNW	LOW	WELL SEEN (Obs.)	



DATE 8 DEC. 64
Pg. # 3

	time	species	#	dir.	hgt.	remarks	loc.
F	1413	Sooty tern	46 ±10				
		Frigate	1				
	1415	Red-footed booby	1	N	low	Collected	
	1426	Sooty Tern	27	E	50-200'		
	1431	White-tailed tropic bird	1		100'		
FF	1437	Sooty Tern	47 ±4				
		Frigate	1				
F	1450	Sooty tern	55		NE		
	1453	shearwater-petrel	1	W	low		
	1500	Sooty tern	2	N	80'		
	1505	wedgetailed shearwater	1	NE	low		
	1533	Storm petrel	1	SW	"	Pale to white sea rump	
	1535	Red-footed booby	1	NW	20'	Imm.	
	1544	Storm petrel	1	SW	low	Harcourts' or Leach's	
F	1553	Sooty tern	55 ±15				
		Frigate	1				
	1615	White-tail Tropicbird	1	NW			
	1628	wedge-tail Shearwater	1	E	low		
	1657	Red-tailed Tropic bird	1	E	low	sitting on water	
	1715	wedgetailed Shearwater	1	NE	"		
	1720	Flock				not feeding	
		Sooty Tern	15				
		Fairy tern	2				
		great Frigatebird	1				
		wedge-tail shearwater	3				
		Juan Fernandez Petrel	1				
		Red-footed Booby	1	Imm			



DATE 8 DEC. 1964
Pg. # 4

time species # dir. hgt. remarks loc.

1722 Wedge-tail Shearwater 2 Z low

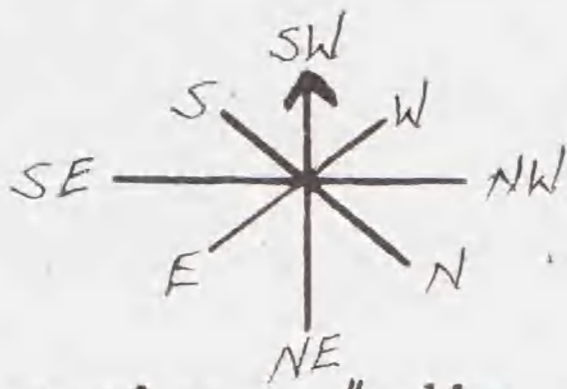
1737 " " 2 Z "

1750 Storm Petrel 1 SW "

1751 Red-footed Booby 1 @ ca 30' imm' collected by mox thompson

1800 " " 1 imm

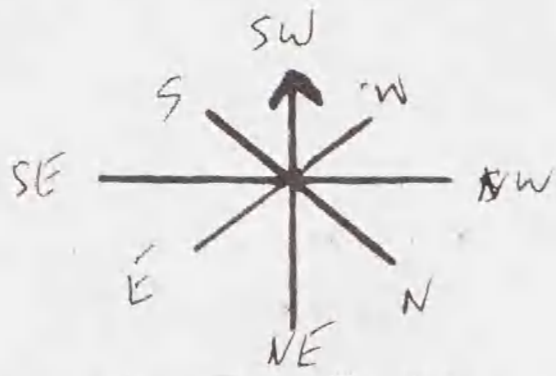
apparent sunset 1812



DATE 9 DEC 64
Pg. # 1

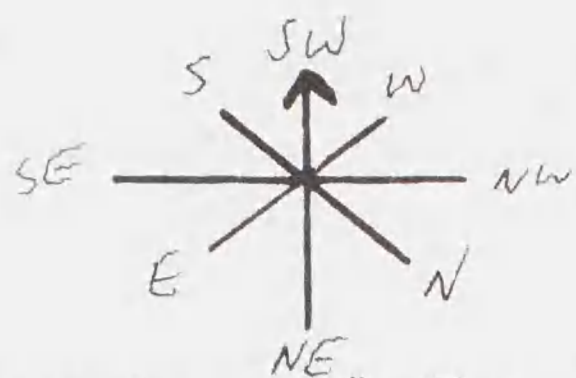
time species # dir. hgt. remarks loc.

0610					COMMENCE OBSERVATIONS - APPARENT SUNRISE	
0615					SUNRISE	
0622	GREAT FRIGATEBIRD	1	☉	150'		
0625	Sooty(?) Tern	2	☉	LOW	} feeding - very poor light	
	SHEARWATER PETREL	1	☉	LOW		
0635	Storm Petrel	1	SW	LOW	- No distinguishing marks seen - distant	
0637	WEDGETAILED SHEARWATER	2	S	LOW		
	Pterodroma	1	S	LOW		
0645	RED-footed BOOBY	1	☉	LOW	- IMM - very dark bird with non-distinct breast-belly demarcation.	
	WEDGETAILED SHEARWATER	2	☉	LOW		
	SHEARWATER-PETREL	1	☉	LOW	- POSSIBLE Pterodroma	
0650	" "	1	NW	LOW		
0652	" "	1	NE	LOW		
0655	" "	1	☉	"		
0713	Pale-footed (P) SHEARWATER	1	S	LOW	all dark bird with SILVER (NOT WHITE) UNDERWING linings. Occasional arching flight but generally straight line	
0717	WHITE-TAILED TROPICBIRD	1	☉	100' rel	-(shot down - arose & flew away).	
0726	SHEARWATER PETREL	2	SE	LOW	- DISTANT	
0729	STORM PETREL	1	W	LOW	- LEECHES OR HARCOURT'S	} JOINED
0731	" "	1	☉	"	- " " "	
0752	COOK/BONIN PETREL	2	NW	LOW		
	WEDGETAILED SHEARWATER	2	NW	LOW		
0757	JUAN FERNANDEZ PETREL	1	☉	LOW		
0819	wedgetailed Shearwater	1	E	"		
0829	Shearwater Petrel	1	ESE	"		



DATE 9 Dec. 1964
Pg. # 2

time	species	#	dir.	hgt.	remarks	loc.
0947	Black-footed albatross	1	N	low	light phase shot at; followed ship	} stayed together, following the same flight pattern.
0953	Blue-faced booby	1		low	following ship; Imm.	
0901	Red-tailed tropic bird	1	NE	90'		
0918	Black-footed albatross	1	following ship	low		
0924	Pterodroma	1	SW	"		
0929	Cook/Bonin's Petrel	2	W	"		
0929	Juan Fernandez Petrel	1	SE	"		
0933	Black-footed albatross	1	following ship	"		
0948	Wedgetail	1	SW	low		
0948	Shearwater	1	SW	"	all dark	
0949	Storm petrel	1		"	White rump	
0949	Juan Fernandez Petrel	1		"		
1003	Storm Petrel	2		"	Leach's or Harcourt's	
1004	Shearwater-Petrel	1	SE	"		
1035	Black-footed Albatross	1	⊙	"	collected RSS - (PROBABLE Bird of. 0933)	
1052	WEDGETAILED SHEARWATER	1	⊙	LOW		
1057	LAYSAN ALBATROSS	1	NE	Low		
1058	JUAN FERNANDEZ PETREL	1	NE	"		
1115	" "	3	⊙	"		
1135	" "	1	⊙	"		
1144	" "	1	SE	"		



DATE 9 Dec 1964
Pg. # 3

time	species	#	dir.	hgt.	remarks	loc.
1219	Wedgetailed Shearwater	1	SW	low		
1255	Blue-faced booby	1	G	60'	collected	
1314	Wedgetailed Shearwater	1	NW	low		
1500	Black-footed Albatross	1	follows ship		- dark phase	
1513	Sooty(?) Shearwater	1	SSE			
1515	wedge-tail Shearwater	1	SE			
1519	Kermadec Petrel	1			light phase - flying around Black-footed Albatross in the water.	
1538	Leeches or Harcourt's Storm Petrel	1		low		
1541	Dark-rump(?) Petrel	1	NW	low		
					ca 1600 collected Black-footed Albatross Dark phase	
1605	White-tail Tropicbird	1			seen	
1645	WEDGETAILED SHEARWATER	1	O	low		
1646	SHEARWATER	1	S	low	- All dark with silver UNDERWINGS - Arching occasionally slender-billed, Sooty, Pale-footed. (Avoiding ship).	
1652	Blue-faced BOOBY	1	G	low	Sub-Adult.	
1720	Leecher/Harcourt Storm Petrel	1	NW	low		
1724	Red-footed Booby	1	G	low	Imm.	
					sunset ca 1725	
1730	STORM PETREL	1	SW	low	Leach's or Harcourt's	
2215	SOOTY TERN	2		100'	CALLING. (POSSIBLY 1-Immature, higher voice than normal)	



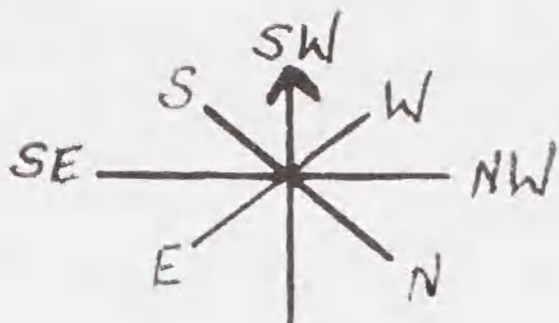
DATE 10 December, 1964
Pg. # 1

time	species	#	dir.	hgt.	remarks	loc.
0630	---	---	---	---	apparent sunrise	
0704	Sooty Shearwater	1	S	sealing high		
0711	Wedge-tail Shearwater	1	WSW	low		
0730	Sooty Shearwater	2	S	sealing high		
0747	" "	1	S	" "		
FF 0818	SOOTY TERN	175 ± 25	TO 100'		- feeding - No flying fish seen - flock broken up by ship.	
	GREAT FRIGATE BIRD	4	200'	200'	- 1 collected MCT (imm) 3-females	
0927	STORM PETREL	1	NE	Low	- LEACH'S OR HARCOURT'S	
0944	SHEARWATER	1	S	Low	- slender billed, sooty, Pale-footed - All dark bird, Arching flt.	
0956	Blue-faced BOOBY	1	NW	Low	- silver underwing linings. - Adult.	
1014	Blue-faced Booby	2	NE	low	1 adult, 1 imm.	
1019	Frigate	2	G	120'		
1020	Sooty shearwater	1	S	low		
1025	Sooty shearwater	1	WSW	"		
1032	" "	2	SSE	"		
1050	Brown Booby	1	W	low		
F 1051	Sooty tern	60 ± 15		200'	high; not feeding	
	Frigate	1		250'		
1055	Storm petrel	1	NW	low	Harcourt's/Leach's	
F 1059	Sooty tern	30 ± 5	NW	100'	NOT feeding	
1059	School of 20-30 porpoises seen briefly					
1103	Shearwater-Petrel	1	S	low	Probably sooty shearwater	
1130	2 rays, about 7' across					
1140	Sooty shearwater	1	SSE	low		
1202	Shearwater	1	SSE	"		



DATE 10 December 1964
Pg. # 2

time	species	#	dir.	hgt.	remarks	loc.
					turned SSE at 1200	
1315	Cook/Bonin Petrel	1	NW	low	arching	
1325	Leach/Harcourt Storm Petrel	1	SE	low		
1345	Wedgetail Shearwater	5		low	1 collected by Bob Stovden	
1432	LAYSAN ALBATROSS	1	☉	low.		
1457	KERMADEC PETREL	1	☉	low	- light phase - Excellent view.	
1506	SHEARWATER	2	SE	low	- sooty or slenderbilled - arching, silver underwing, uniform Gray-brown	
1600	SHEARWATER/PETREL	1	SE	low	- distant. - Arching flight, white below, brownish above.	
1604	STORM Petrel	1	SSE	low	- Leach's or HARCOURT'S	
1635	Storm Petrel	1	SSE NNW	low	Leach's or Harcourt's	
1720	Wedgetailed shearwater	1	NNW	low		
1750					sunset	

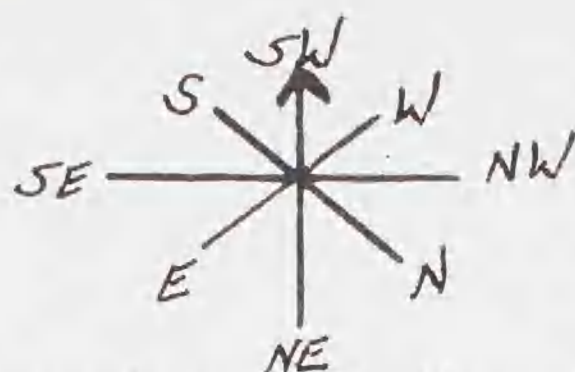


ENTER GRID - 0100 HRS.

DATE 11 DEC 64
Pg. # 1

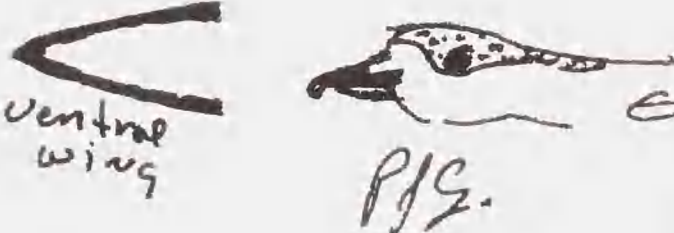
time	species	#	dir.	hgt.	remarks	loc.
0630	---	---	---	---	APPARENT SUNRISE	
0642	SHEARWATER PETREL	1	S	Low	- Arching flight - distant	
0656	JUAN FERNANDEZ PETREL	1	ENE	Low		
0700	---	---	---	---	STOPPED FOR MORNING STATION	
0704	BLUE-faccd BOOBY	1	---	Low	- Collected J.D.W. - sub-Adult.	
0710	JUAN FERNANDEZ PETREL	1	NW	Low		
0729	" "	1	NW	Low		
0805	---	---	---	---	UNDERWAY	
0807	Juan Fernandez Petrel	1	N	Low		
0924	Juan Fernandez/ White Neck Petrel	1	SE	Low		
F 1015	Sooty tern Wedgetailed Shearwater Greater Frigate	21 1 1			Not feeding Imm; collected	
F 1042	Flock Terns Shearwater/ Petrel	12E 3 1			not feeding; very distant	
1045	Juan Fernandez Petrel	1				
1125	Sooty Shearwater	1	---	---	sat on water	
1226	WEDGE TAILED SHEARWATER	3	⊙	Low		
1239	" "	2	⊙	"		
1254	" "	1	⊙	"	- DARK Phase	
1304	RED-TAILED TROPICBIRD	1	⊙	150'		

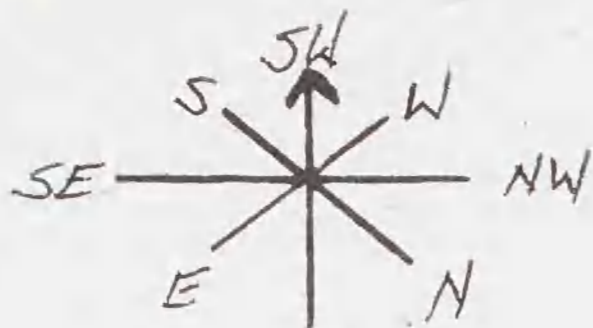
12
39
60



DATE 11 DEC 64
Pg. # 2

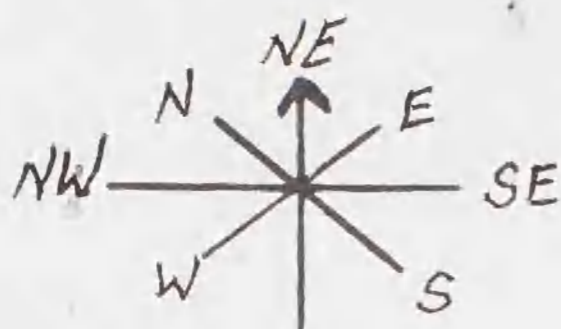
time species # dir. hgt. remarks loc.

1325	SHEARWATER/ PETREL	1	⊙	low	- DISTANT.	
F 1340	WEDGETAILED SHEARWATER	3	⊙	LOW		
	SOOTY TERN	2	⊙	"		
	JUAN FERNANDEZ PETREL	1	⊙	"	- collected MCT.	
1350	WEDGETAILED SHEARWATER	4	⊙	"		
1355	STORM PETREL	2	⊙	LOW	HARCOURT'S OR LEACH'S.	
1424	Sooty shearwater	1	S	low		
1457	Kermadec Petrel	1	S	"	light phase, sitting on water	
1459	Blue-faced booby	1	G	low	Finn.	
1500	Juan Fernandez/ White-Necked Petrel	1	S	low		
1530	Juan Fernandez White-Necked Petrel	1	NE	low		
1543	"	1	NW	"		
1602	shearwater- Petrel	1	NE	"	Very dark bird, underwing like Juan Fernandez, rapid erratic flight, slightly larger than Bonin Is. Petrel.	
					 <p>dark patch on head extends down in patch to cover eye</p>	
					Some size as, or close to, Bonin Island Petrel	
1624	JUAN FERNANDEZ PETREL	1	S	low		
1630	STORM PETREL	1	SE	"	- HARCOURT'S OR Leach's.	
1645	"	1	NE	"	- " " "	
1723	Pterodroma	1	NE	"	- distant.	
1800	-	-	-	-	- APPARENT SUNSET.	



DATE 11 DEC 64
Pg. # 3

time	species	#	dir.	hgt.	remarks	loc.
1810	Shearwater/petrel	1	W	10'	High arcing flight	
2025	Bird	1	NE	?	Late morning area above ship presumed to be ave.	
2100					change course to NW	
2157	Tern	1	NE	30'		
2204	Bird				calling; single note	
2334	Fairy tern	1	NE	10'		
12 DEC.						
0130	---	1	NE	30'	COURSE CHANGE TO NE.	
0150	TROPIC BIRD	1	NE	30'	PROBABLE WHITE-TAILED - slender body - quick alights.	
0622	Sooty Tern	1	SE	50'	Arise from WATER.	
0640	---	---	---	---	Apparent sunrise	
0700	Frigate bird	1	SE	high	---	
0759	Juan Fernandez Petrel	1	SW	low	---	



DATE 12 DEC 64
Pg. # 1

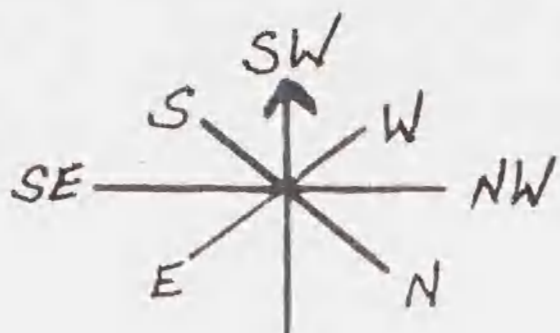
time species SW # dir. hgt. remarks loc.

0130	---	---	---	---	---	COURSE CHANGE TO NE	
0150	TROPICBIRD	1	NE	30'		-PROBABLE WHITE-tailed - slender body - quick wingbeats Arose from water.	
0622	SOOTY TERN	1	SE	50'			
0640	---	---	---	---	---	APPARENT SUNRISE	
0700	FRIGATEBIRD	1	SE	HIGH			
0759	JUAN FERNANDEZ PETREL	1	SW	Low			
0836	GREAT FRIGATEBIRD	2	⊙	200'			
0928	" "	1	⊙	50'			
1125	Jaeger	2	N	High		1 was all dark, the other an adult light phase with good black cap, but they were too far out to see tails They flew slow enough & looked big enough to be Pomarine.	
1158	Shearwater	1	SW	low		Dark	
1205	Greater Frigate	1	NE	70'			
1238	Juan Fernandez Petrel	1	NE	low			
1246	Wedgetailed Shearwater	1	SE	low			
1343	Juan Fernandez Petrel	1	E	low		sitting on water	
1345	Storm Petrel	1	S	low		White rump	
1400	" "	1	S	"		" "	
1420	bird	1	E	low			
1449	shearwater/ petrel	1	SE	"			
1542	storm Petrel	1	SW	"			
1550	Flock	---	---	---	---	actively feeding	
	Sooty tern	25 ± 5					
	Wedgetail shearwater	20 ±				1 dark phase	
	Juan Fernandez Petrel	2 ±					
	White-necked Petrel	1 ±				light phase	
	Kermadec Petrel	1					
	Pterodroma	40 ±					



DATE 12 Dec
Pg.# 2

time	species	#	dir.	hgt.	remarks	loc.
1615	Guam Fernaldy Petrels	3	E	2'	Together	
1630	"	1	E	2'		
1750	Red-footed Booby	1	NE	20'	Shot at but flew off.	



DATE 13 DEC. 64
Pg. # 1

COURSE CHANGE TO SW AT 0400 hrs.

time species NE # dir. hgt. remarks loc.

0635 - - - - - SUNRISE

0642 GREAT FRIGATEBIRD 1 \odot 150' - 1mm.

0700 - - - - - STOPPED FOR MORNING STATION.

0722 WEDGETAILED SHEARWATER 2 \odot low

0745 - - - - - UNDERWAY.

0826 WEDGETAILED SHEARWATER 1 N low

0830 WHITE-TAILED TROPICBIRD 1 \odot 100-300 circled behind ship

0840 WEDGETAILED SHEARWATER 1 N low

0847 SHEARWATER or PETREL 1 N low FAR OUT

0944 SHEARWATER or PETREL 1 N low FAR OUT

1047 Juan Fernandez Petrel 1 NE low

1403 SHEARWATER/PETREL 1 N low - long slender wings & fast flight, quick wingbeats - somewhat like (but not as definite as) Newell's. All brown above light or white belly & breast. UNDERWING with very little or no white and possibly dark AUXILLARS. (flying with wedgetail.) (hooked very similar to wedgetail but with different flight). (2nd Bird said to be wedgetail by MCT, JUAN FERNANDEZ by RSS & same as above described bird by J.D.K.)

1435 wedgetail shearwater 1 N low

1445 Frigate bird 1 N 50ft collected R.S.S. & M.C.T.

Flock { 1500 Frigatebird 1 N high
Wedgetail 5 low feeding saw white blow Resame course 1525
1 collected R.S.S.

1705 BLUE-FACED BOOBY 1 \odot 1mm

1805 - - - - - APPARENT SUNSET.



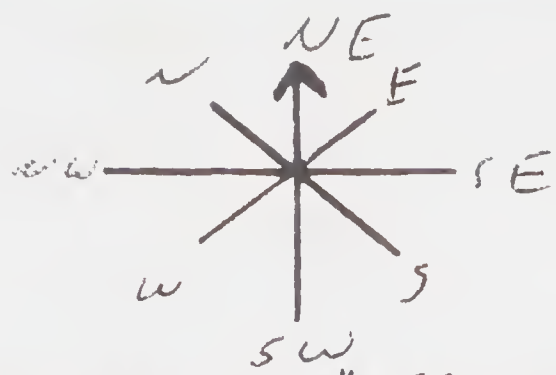
DATE 14 December, 1964

Pg. # 1

(2234 hrs 13 DEC - 1, W.T. TROPICBIRD ♂)
 (1 SHEARWATER/PETREL GOING SW, LOW.)

time species # dir. hgt. remarks loc.

time	species	#	dir.	hgt.	remarks	loc.
					Sunrise Ca. 0645	
0655	FRIGATE-BIRD, Great	1	N	High		
					RAIN Squall FROM 0700 to 0745	
0845	Juan Fernandez Petrel	1	W	low		
0846	Wedgetailed Shearwater	1	S	low		
0850	Wedgetailed Shearwater	1	NE	low		
0924	Wedgetailed Shearwater	1	SE	low		
F 0946	Sooty tern	25± 5			Distant; not feeding	
	Wedgetailed Shearwater	30± 5				
FF 1018	WEDGETAILED SHEARWATER	18	☉	low	- 1 DARK PHASE, SMALL SCHOOL of fish beneath flock. Feeding!	
1031	" "	2	W	"		
1036	" "	1	S	"		
1119	JOAN FERNANDEZ PETREL	1	SE	low		
1149	WEDGETAILED SHEARWATER	1	☉	low		
1215	BIRD	1	N	low	- long ways off just above horizon could not see it with binoculars as it dipped below horizon	1055
1255	Wedgetail Shearwater	1	N	low		
1310	" "	1	N	low		
1430	" "	1	NE	low		
1530					- SHIP ON HORIZON TO ENE	
1558	SHEARWATER PETREL	1	☉	low	- DISTANT.	



DATE 14 DECEMBER 1964
Pg. # 2

time species # dir. hgt. remarks loc.

1705 WEDGETAIL SHEARWATER 1 NE low

1737 BLUE-FACED BOOBY 1 S low IMMATURE

1755 TROPICBIRD 1 W 75'

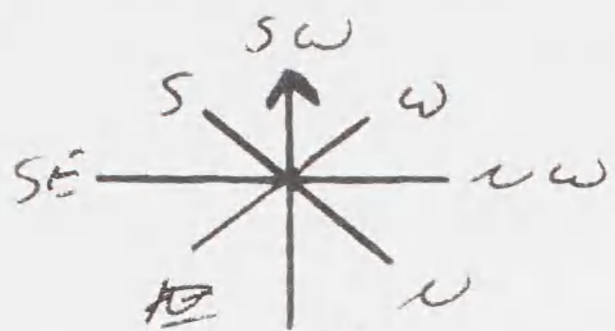
APPARENT SUNSET CA 1758



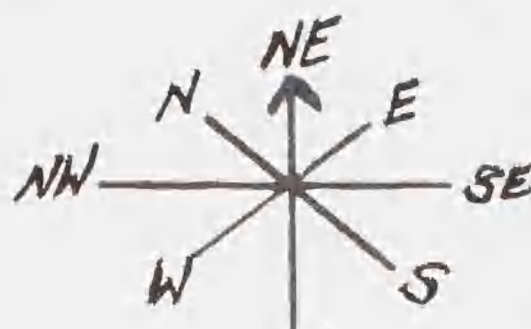
DATE 15 December 1964
Pg. # 1

time	species	#	dir.	hgt.	remarks	loc.
0645					sunrise	
0700					change course to SW	
0702					stop for morning station	
0710	wedgetailed shearwater	1	E	low		
0740					under way	
0826	WEDGE-TAIL SHEARWATER	1	NE	low		
0848	" "	1	N	low		
0925	BLACK-FOOTED ALBATROSS	1	↻NW	low	dark phase	
0927	WEDGE-TAIL SHEARWATER	1	⊙	low		
0947	" "	1	⊙	low		
1023	Black-footed albatross	1	↻NW	low		
1048	wedgetailed shearwater	1	N	low		
1048	Black-footed albatross	1	N	low	light phase	
1103	wedgetailed shearwater	1	E	low		
1140	Frigatebird	1	E	low	chasing flying fish over H ₂ O	
1445	Juan Fernandez	1	W	low	- very close RSS.	
1213	SOOTY TERN	1	NE	low		
1313	WHITE-TAILED TROPICBIRD	1	SW	40'	collected - AHA	
1454	BLACK-FOOTED ALBATROSS	1	⊙	low	light phase	
1524	PTERODROMA	1	S	low		

this is the calmest weather I've ever seen in the grid (PJS)



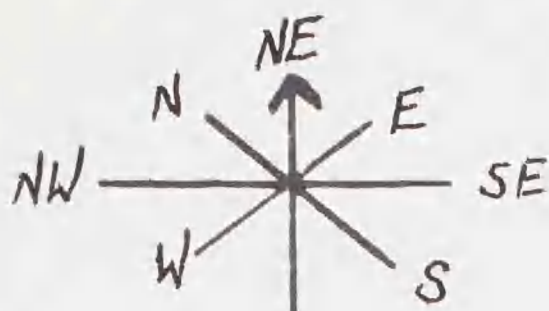
time	species	#	dir.	hgt.	remarks	loc.
1552	LARGE PTERODROMA	1	NW	low		
1557	Flock	-	-	-	Actively feeding - school of tuna breaking surface also dolphin (mahi-mahi)	
	GREAT FRIGATE BIRD	1	♀ Ad.		1 tuna, 1 dolphin hooked by fishermen on fantail	
	Wedge-tail Shearwater	4				
	Red-footed Booby	1	Ad			
	Harcourt/Leaches Petrel	1				
1629	Wedgetailed Shearwater	1	NW	low		
1631	"	1	sitting	on water		
1632	Blue-faced booby	2	SE	20'	one adult, one imm.	
1636	Storm petrel	1	SE	low	white-rump	
1745	Flock	-	-	-	actively feeding, large school of tuna breaking surface of water	
	WEDGETAIL SHEARWATER	35±4	-	-	3 collected	
	Sooty TERN	9				
	Red-Footed BOOBY	1	-	-	sub ADULT	Black-footed ALBATROSS Following ship Did NOT Join flock
CA 1800					SUNSET.	



DATE 16 DEC. 64
Pg. # 2

0440 - TROPIC BIRD
0510 - "
0635 - STORM PETREL (A. YOUNG.)

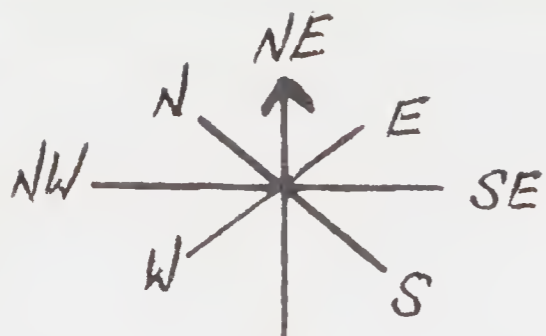
time	species	SW #	dir.	hgt.	remarks	loc.
0643	WEDGETAILED SHEARWATER	3	⊙	LOW		
0654					SUNRISE	
0702	STORM PETREL	1	NW	LOW	- PROBABLE WHITE-RUMPED BIRD BUT POOR LIGHT.	
F 0706	SOOTY TERN	6	NW	50'	- Not feeding	
0708	WEDGETAILED SHEARWATER	2	-	LOW	- ONE ON WATER.	
0712					- STOPPED FOR MORNING STATION.	
0715	RED-TAILED TROPIC BIRD	1	E	60'	- collected - J.D.W.	
0736	WEDGETAILED SHEARWATER	1	⊙	LOW		
0739	" "	1	⊙	"		
0742	" "	1	⊙	"		
0743					UNDERWAY & COURSE CHANGE TO NE.	
0830	wedgetail shearwater	1	N	low		
0840	" "	1	SW	low		
0845	white Tailed Tropic bird	1	SW	50		
0915	wedgetail shearwater	2				
	Juan Fernandez Petrel	1	SW	low		
0930	wedgetail shearwater	4	NE	low		
0935	" "	1	SW	low		
0936	Juan Fernandez Petrel	1	SW	low		
FLOCK 0940	wedgetail shearwater	9			} sitting on H2O 4 collected wedgetail	
	Juan Fernandez Petrel	1				
0955	Blue faced Booby	1	⊙	50		
1031	Wedgetailed Shearwater	1	NW	LOW		
1039	" "	1	W	"		
F 1043	" "	8	⊙	"	- ONE bird ON WATER - PROBABLY FEEDING	



DATE 16 DEC 64
Pg. # 2

time species ^{SW} # dir. hgt. remarks loc.

	1128	WEDGETAILED SHEARWATER	1	⊙	Low		
	1143	Storm Petrel	1	E	low	Harcourt's or Leach's	
	1217	WEDGETAILED SHEARWATER	1	NW	low	collected by M. Thompson	
	1240	" "	1	SE	low		
	1257	PORPOISE	10±	SSE	—	skinny, had long snouts, jumping clear of WATER	
	1320	WEDGETAILED SHEARWATER	1	Q	low		
F	1357	" "	1 7	NE	low	not feeding	
	1425	" "	1	NE	low		
	1450	Shearwater-Petrel	1	SE	low	Distant	
	1455	Wedgetailed Shearwater	3	NE	low		
	1505	"	3	sitting on		floating shell cases	
	1507					stop to pick up shell cases	
	1515					underway	
F	1530	Wedgetailed Shearwater	24± 4	several dark phase		feeding; large tuna and 1-20' whale in the area	
		Sooty tern	4				
		Frigate	1			one dark phase collected	
	1547	Wedgetailed Shearwater	2	N	low		
	1549	Juan Fernandez Petrel	1	NE	low		
	1558	"	1	NE	low	} flying together, landing on water, feeding	
	1558	Wedgetailed Shearwater	1	NE	low		
	1610	" "	1	E	"		
	1640	" "	1	Q	"		
	1641	" "	1	Q	"		




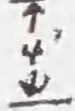
DATE 16 DEC. 64
Pg. # 3

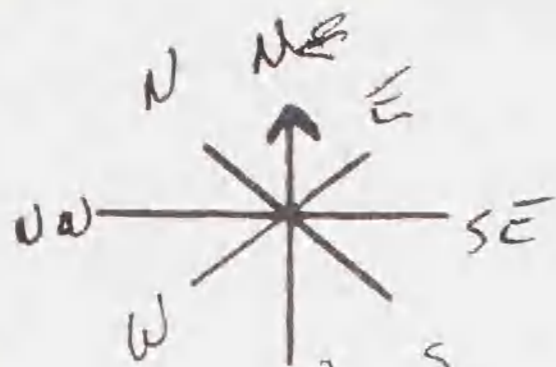
time	species	SW #	dir.	hgt.	remarks	loc.
1720	WEDGE-TAILED SHEARWATER	2	☉	low		
1730	Christmas Isl. (?) SHEARWATER	1	S	low	- could be Sooty or SLENDER billed	
1730	Leeches/ Harcourts Storm Petrel	1	NE	low	Keeping up with ship for over 5 minutes so flying at least 10 knots per hour.	
1758 1758	WEDGE-TAILED SHEARWATER	2	☉	low		
APPARENT SUNSET CA. 1800						



DATE 17 December 1964
Pg. # 1

time species # dir. hgt. remarks loc.

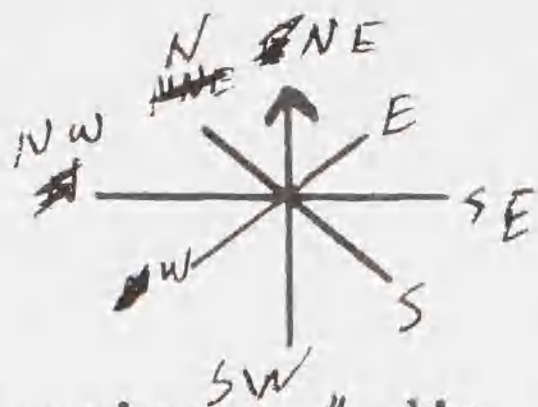
0652					Sunrise	
0714	Wedgetailed Shearwater	2	NE	Low		
0714					stop for morning drops	
0740					under way	
0743	wedgetailed Shearwater	1	NE	low		
0750					whale spout 	
0802	Wedgetailed Shearwater	1	NE	low		
0813	WEDGE TAILED SHEARWATER	1	⊙	low		
0840	KERMADEC PETREL	1	WNW	low	dark brown color, white under wing patches small and restricted to primaries, typical Pterodroma flight.	
1000	RED-TAILED TROPIC BIRD	1	⊙	60'		
1145	WHITE-tailed TROPIC BIRD	1	⊙	80'		
1235	Greater Frigate	1			Imm; circling & diving over small area but not feeding	
1507	STORM PETREL	1	NW	low	- HARCOURT'S OR LEACH'S	
1530	Pterodroma	1	SW	low	-	
1645	Juan Fernandez petrel	1	NE	low		
1650	Laysan Albatross	1	NE	low		
51745					Apparent Sunset	



DATE 18 DECEMBER
Pg. # 1

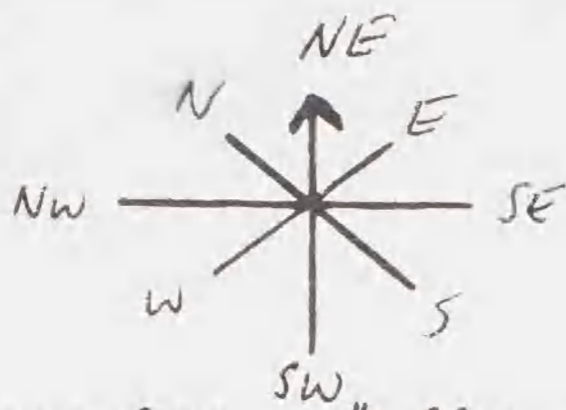
time	species	#	dir.	hgt.	remarks	loc.
0640					apparent sunrise	
0745	SHEARWATER/ PETREL	2	NW	Low		
0842	Black-footed Albatross	1	following	—	- DARK PHASE	
0912	Wedge-tail Shearwater	1	E	Low		
1040	Black-footed albatross	1		low	dark phase	
1107	LEACHES / HARCOURTS STORM PETREL	2	SS	low		
1128	RED-FOOTED BOOBY	1	⊙	20'	IMMATURE	
1235	SHEARWATER /PETREL	1	—	70-60'	- distant - POSSIBLE pterodroma - Arching	
1322	wedgetail	1	SW	low		
1327	shearwater / Petrel	1	SW	50'	long wings behind sleep	
1328	wedgetail shearwater	2	SW	low		
1344	wedgetail shearwater	1	SW	low		
1405	Juan Fernandez Petrel	1	W	low		
1505	Black-footed Albatross	1	following	—		
1522	"	2	"	—		
1547	Wedge-tail	2	SE	low		
1620	Black-footed albatross	4	—	—	all present now	
1703	LEACHES / HARCOURTS STORM PETREL	1	NE	low		

observation secured ca 1730



DATE 19 December, 1964
 PG.# 1

time	species	#	dir.	hgt.	remarks	loc.
0600	Black-footed albatross	4	following	-	BIRDS (B.F.A.) seen around ship during Night. Possibly some of same followed ship all night.	
0615	wedge-tails	40+	NE	low		
0630	"	8	NE	low	possibly part of same flock	
0630	Black-footed albatross	5	following			
0638	Red-footed Booby	1	SW		Apparent sun rise 0638	
0638	Wedge-tail	3	NE	low		
0645	Wedge-tails	8	NE	low		
0655	Fairy Tern	1	SW	20'		
	Juan Fernandez Petrel?	1	SE	low	<u>Pterodroma</u> & thought to be J.F. - following ship.	
0700	Wedge-tail	2	following	-		
0715	Black-footed Albatross	1	"	-	TOTAL of 6 Following	
0830	-	-	-	-	6 BLACK-FOOTED ALBATROSS AND 2 WEDGE-TAILED SHEARWATERS still following the ship	
0945	-	-	-	-	3 BLACK-FOOTED ALBATROSS and 1 WEDGE-TAILED SHEARWATER now following the ship	
0900	-	-	-	-	6 Albatross 1 wedgetailed Shearwater	
0915	Wedgetailed Shearwater	1	S	low	Dark phase	
0916	Storm petrel	1	S	low	White-rump	
0920	Wedgetailed Shearwater	1	NE	low		
0935	"	1	following ship			
0940	Common Noddy	1	E	low		
	Sooty tern	7	E	15'		
0941	Blue-faced booby	1	E	low	Ad	



DATE 12-19-64
Pg. # 2

	time	species	#	dir.	hgt.	remarks	loc.
F	0954	Sooty tern	13			Feeding heavily on large school	
		Wedgetailed Shearwater	15				
		Common Noddy	1				
	1004	Juan Fernandez Petrel	1			very light neck	
		Black footed Albatross	2				
		wedgetail Shearwater	1				
	1010	Red tailed Tropicbird	1			Too big for fairy tern no black on wings or back - could not see tail	
	1022	sooty tern	2	SW			
	1022	Juan Fernandez Petrel	1	SW	low		
	1030	wedgetail Shearwater	3	⊙	low		
	1023	Fairy Tern	1	-	25'		
	1053	RF Booby	1	⊙	50'		
	1103	Red Tailed Tropicbird	1	E	100'		
	1108	Pterodroma	1	E	low	to mid breast the head & neck gray - wings dark lower breast & belly white.	
	1145	STORM PETREL	1	S	LOW	HARCOURT'S OR Leach's - alighting on water momentarily - probably feeding.	
	1148	White-tailed Tropicbird	1	⊙	175'		
	1158	SOOTY TERN	1	S	50'		
	1211	wedgetailed Shearwater	1	SE	low		
	1215	"	2	NE	low		
F	1220	Sooty tern	30± 5			Feeding; distant - could have seen noddies also	
		Wedgetailed shearwater	20± 5				
		Fairy tern	6				
		Booby	2			Imm.	
		Frigate	2			Imm.	



DATE 19 Dec 1964
Pg. # 3

time	species	#	dir.	hgt.	remarks	loc.
1245					only 3 Albatross left.	
1307	Leach/Harcourt Petrel	1	NE	low		
1332	Pterodroma	1	NW	low		
1340	Wedge-tail	1	NE	low		
	FLOCK				ACTIVELY FEEDING OVER LARGE	
1425	Sooty Tern	100±10			FISH SCHOOL - one shearwater had a small	
	FAIRY TERN	4			silvery fish in its bill - flying fish were present	
1445	COMMON NODDY TERN	1			albatross did not join into flock	
	GREAT FRIGATE BIRD	2	1♂, 1♀			
	WEDGE-TAIL SHEARWATER	25+5			MANY on the water	
	WHITE NECKED PETREL	1				
	RED-FOOTED BOOBY	1	IMM			
	BLUE-FACED BOOBY	2	1 AD. & 1 IMM.			
1503	FAIRY TERN	1	♂			
1507	REDFOOTED BOOBY	1			follows ship with ALBATROSS from.	
1538	LEECHES/ov HARGOURTS STORM PETREL	1	NE			
1540	" "	2	NE			
1541	WEDGETAILED SHEARWATER	1	NE			
1550	" "	1	N			
1600						
1606	Booby	1	N	low	- distant - PROBABLE RED-FOOTED.	MEETING GREEK SHIP POLICOS.
1610	WEDGETAILED SHEARWATER	1	N	"		
1615	SOOTY TERN	10	N	"		
1629	Red-footed Booby	1	SE	low	Immature	
1630						
1651	WEDGETAILED SHEARWATER	1	♂	"		
1705	Red-footed Booby	1	circling			
1707	Sooty Tern	3	N	30'	1711 Apparent Sunrise	



DATE 20 DECEMBER 1964
Pg. # 1

time species ^{SW} # dir. hgt. remarks loc.

						Sketch no 0655	
0656	Black-FOOTED ALBATROSS	1	follow ship	low			
0702	JUAN FERNANDEZ Petrel	1	W	low			
0710	WEDGE TAIL SHEARWATER	1	⊙	low			
0714	" " "	1	⊙	"			
0738	" " "	2	NW	"			
						0745 still only one ^{B-F.} Albatross following the ship	
0747	SHEARWATER/ or PETREL	1	SW	"			
0750	Large PTERODROMA	1	NNE	"			
0752	JUAN FERNANDEZ PETREL	1	NNE	"		scaling up to ca 80'	
0755	SHEARWATER/ or PETREL	1	NW	"			
0757	WEDGE TAILED SHEARWATER	1	NE	"		following ship	
0801	"	1	SW	"			
0803	Laysan Albatross	1	NE	"			
0805	Wedgetailed Shearwater	1	NE	"			
0812	Sooty tern	1	SW	"			
0814	Juan Fernandez Petrel	1	⊙	"		following ship	
0820	White-tailed Tropic Bird	2	S	80'			
0827	Storm petrel	1	N	low		White rump	
0924	Pterodroma sp	1	NE	low		long way off	
0930	Harcourt Leach's Storm Petrel	1	⊙	low			
0940	Pterodroma sp	2	NE	low			



DATE 20 December 1964
Pg. # 2

time species # dir. hgt. remarks loc.

1002 FAIRY TERN 1 E 20'

1004 JUAN FERNANDEZ PETREL 1 SW Low

1008 FAIRY TERN 1 SW 40'

1010 Black-footed Albatross 1 following — - TOTAL OF 2 following.

1020 " " " 1 " — - " " 3 "

1022 WEDGETAILED SHEARWATER 1 SW Low

1025 — — — — LAND Ho!

1031 WHITE-TAILED TROPIC BIRD 1 ☉ 100'

1120 Pterodroma 2 SW low

1140 Bonin Is. ? Petrel 1 SW low a Pterodroma which was quite small with white underwings with dark tipped primaries. Back solid grayish.

1145 Wedge-tail Shearwater 2 ☉ low

~~Winty~~

DECEMBER AT-SEA SURVEY: GRID STUDY

This report is concerned only with the information obtained within the 50,000 square mile grid area for December, 1964. Data from investigations outside this area during the same month will be presented in a subsequent report. A total of six days, 11-16 December, 1964, were spent within the grid. During this period a total of 617 linear miles and 136.2 man hours of diurnal observation were concluded.

Table I

TIME AND MILAGE OF DIURNAL OBSERVATIONS WITHIN THE GRID

<u>Date</u>	<u>No. Miles</u>	<u>No. Man Hours</u>
11	108	23.0
12	101	22.6
13	117	23.2
14	98	22.4
15	105	22.6
16	88	22.4
Total	617	136.2

67.1

Five members of the Pacific Ocean Biological Survey Program, Smithsonian Institution conducted the survey work: Patrick Gould, Biologist in Charge, Alan Anderson, Robert Standen, Max Thompson and Douglas Whitman. Two students: Robert Banner and Alan Young, representing Dr. Maxwell Doty of the University of Hawaii, conducted oceanographic studies.

No problems were encountered and excellent cooperation was provided by the officers and crew of the U.S.N.S. SHEARWATER. The shorter period of time required to make the full grid pattern this month was the result of exceptionally favorable seas and the relatively smaller numbers of birds encountered.

760
617
1377

A grand total of 481 individual birds were recorded within this area, of which 16 were collected. This gives an estimated 0.39 birds per square mile, 19,490 estimated for the area as a whole, during this month. As expected this figure is considerably below that for the previous month and is a reflection of the lack of migrating birds in the area plus the absence of breeding populations.

A total of 11 species of birds, averaging 6.5 per day, were identified. This figure, as expected, is slightly below that of last month. Two species found last month were not recorded this month; Christmas Island Shearwater and Cooks Petrel. Only one species, Black-footed Albatross, was present this month that was not found in November.

Black-footed Albatross

Two individuals were recorded in very calm weather. This species, although expected in fair numbers nearer the major Hawaiian Islands, was not expected within the grid area this month. Its presence here at this time is probably accidental and should probably not be expected every December.

Wedge-tailed Shearwater

A total of 239 individuals were identified, all apparently birds of the year. Last months large numbers and the even larger numbers this month probably represent immature birds that have recently left their nesting burrows on the Hawaiian and Leeward Islands. The adults had presumably departed by the end of October.

Sooty Shearwater

Two individuals, both headed south, were recorded. They were presumed to be of this species since both had the typical silvery, or white, underwing pattern. Since a few others of this species were observed outside the

grid this month these birds are thought to represent the end of the fall migration. This is an exceptionally late date for these birds to be migrating since they should already be breeding in southern waters.

Juan Fernandez Petrel

The decrease in numbers to 24 individuals this month is to be expected since this is the beginning of their breeding season in southern areas.

White-necked Petrel

Only one individual bird was recorded. This decrease in numbers from November is the result of the beginning of their breeding season in southern areas.

Kermadec Petrel

The two individuals, both light phase, recorded this month represent no substantial change in status over November.

Leach's or Harcourt's Storm Petrel

It is still impossible to distinguish between these two species in the field, but it is felt that most, if not all, of these birds are Leach's Storm Petrels. A total of 12 were recorded. This increase is due to birds returning from their breeding grounds in the Alaskan area.

Red-tailed Tropicbird

Only two individuals were recorded this month. This decrease in numbers of birds appears to be due to normal fluctuation in numbers with a tendency to be less numerous during the winter months.

White-tailed Tropicbird

The three individuals recorded this month represents no substantial change in population size from November.

Blue-faced Booby

Blue-faced Booby

The seven individuals recorded this month represent an expected increase over November that should continue into January and February.

Red-footed Booby

The three individuals recorded represent no change in status from November.

Great Frigatebird

The 13 birds, mostly immatures, represent no change in status from November.

Sooty Terns

The surprisingly high total of 93 birds, at least in view of last months low number, is probably due to an influx of birds from an outside area. It is assumed that these birds are merely passing through the area.

Jaegers

Two individuals flying together, presumably one adult and one immature, were recorded on 12 December. From their size and shape it is thought that they were probably Pomarine Jaegers, but this identification is uncertain. This species is rarely found within the grid area.

It is interesting to note that the number of feeding flocks encountered in December (6) is twice that found in the same area in November. No explanation is available at this time.

Table II

DIURNAL ABUNDANCE OF SPECIES GROUPS WITHIN THE GRID

<u>Species Group</u>	<u>No. Birds</u>	<u>Birds/sq.</u> <u>Mile</u>	<u>Estimated</u> <u>Population</u>	<u>Percent total</u> <u>Birds</u>
Shearwater- Petrel	330	0.27	13,370	69
Tern	105	0.06	2,850	22
Storm Petrel	12	0.02	970	02
Booby	10	0.01	400	02
Frigatebird	13	0.005	260	03
Tropicbird	6	0.005	250	01
Shorebird	0	0.00	0	00
Total Birds	481	0.39	19,490	100

Table III

DIURNAL ABUNDANCE OF BIRDS WITHIN DIFFERENT GRID QUADRANTS

<u>Birds</u>	<u>South</u> <u>Miles</u>	<u>Birds/</u> <u>Mile</u>	<u>Birds</u>	<u>North</u> <u>Miles</u>	<u>Birds/</u> <u>Mile</u>	<u>Birds</u>	<u>East</u> <u>Miles</u>	<u>Birds/</u> <u>Mile</u>	<u>Birds</u>	<u>West</u> <u>miles</u>	<u>Birds/</u> <u>Mile</u>
52	160	0.3250	77	121	0.5537	155	166	0.9337	197	170	1.1588

DECEMBER AT-SEA SURVEY

NON-GRID

The material covered in this report consists of the results and experiences accomplished during the December (7-10 and 17-20, 1964) at-sea survey in all areas located outside the primary grid area. During this period a total of 760 linear miles and 112.9 man hours of diurnal observations were concluded.

Table I

TIME AND MILAGE OF DIURNAL OBSERVATIONS OUTSIDE THE GRID

<u>Date</u>	<u>No. Miles</u>	<u>No. Man Hours</u>
07	42	8.6
08	103	22.0
09	111	22.2
10	115	22.6
17	112	11.0
18	114	10.9
19	111	10.7
20	52	4.9
Total	760	112.9

112.9
 136.2
 249.1
 49.812
 99.6

The usual schedule was followed with the addition of collecting blood samples from all collected specimens. During this period a total of 12 specimens were collected, all of which were preserved as scientific study skins.

A total of 17 species of birds were identified with an average of 7.8 recorded per day. Eight species recorded last month were not found this month: Christmas-Island Shearwater, Golden Plover, Cooks Petrel, Dark-rumped Petrel, Newell's Shearwater, Pale-footed Shearwater, Herald's Petrel, and Japanese White-eye. Only one species was recorded this month but not found in November: Laysan Albatross.

Laysan Albatross: Three individuals recorded. This represents the first appearance of this species, at the beginning of its breeding season along the Leeward Islands.

Black-footed Albatross: A total of 16 birds represent a great increase over last month. As with the above species these birds are returning for their breeding season on the Leeward Islands.

Wedge-tailed Shearwater: Unlike the increase within the grid area, this species reduced its numbers, over the November total, to only 184 individuals recorded.

Sooty Shearwater: Only 11 individuals were recorded, the bulk having passed through the area during November.

Bonin-Island Petrel: As with last month only one individual was recorded.

Kermadec Petrel: Three individuals were recorded. This represents a population comparable to that found in November.

Juan Fernandez Petrel: The total of 18 individuals recorded represents a slight decrease in numbers from November.

Red-tailed Tropicbird: The total of four individuals recorded is comparable to the three found in November.

White-tailed Tropicbird: The total of 15 individuals recorded this month is identical to the total recorded for November.

Blue-faced Booby: Total of 11 individuals is a considerable increase over last months total.

Brown Booby: As in November one individual was recorded.

Red-footed Booby: The total of 19 individuals is a considerable increase over last months total.

Great Frigatebird: A slight decrease in numbers of birds, 32 to 24, from November was recorded.

Sooty Tern: The 960 individuals recorded this month is vastly greater than the number recorded in November. This is probably due to birds from outside the area moving through.

Fairy Tern: The total of 25 birds is considerably greater than that found in November.

Table II

<u>Species Group</u>	<u>No. Birds</u>	<u>Birds/sq. Mile</u>	ABUNDANCE OF SPECIES GROUPS OUTSIDE THE GRID	
			<u>Estimated Population</u> *	<u>Percent Total</u> **
Shearwater-Petrel	282	0.20	9,925	19
Terns	1039	0.46	22,785	72
Booby	34	0.02	1,195	02
Storm Petrel	32	0.04	2,105	02
Frigatebird	24	0.01	400	01.5
Tropicbird	20	0.01	700	01.5
Total	1451	1.02	51,090	100

* in a 50,000 square mile area

** of total birds recorded, not adjusted figures

Table III

DIURNAL ABUNDANCE OF BIRDS WITHIN A 50 MILE RADIUS OF JOHNSTON ATOLL

<u>Date</u>	<u>Total Birds</u>	<u>Total Miles</u>	<u>Total Sooty Terns</u>	<u>Total Wedge-tail Shearwater</u>
10 Dec.	302	89	265	6
	Total bird density	3.4 /sq. m.	2.98 /sq. m.	

DATE Sa 19 Dec 1964

Time at sunrise = 0623 Position at sunrise = $L-19^{\circ}-45N$ λ $163^{\circ}-25W$

Time at sunset = 1712 Position at sunset = $L-20^{\circ}-12N$ λ $161^{\circ}-31W$

Miles traveled from 0000 hours to sunrise = 64 mi

Miles traveled from sunrise to sunset = 111 mi

Miles traveled from sunset to 2400 hours = 66 mi

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	0230	LORAN	164-04W	19-33N
2.	0530	STARS	163-32W	19-43N
3.	1054	LORAN	162-37W	19-54N
4.	1505	LORAN	161-53W	20-05N
5.	1740	STARS	161-27W	20-13N
6.				

DATE Sun 20 Dec 1964

Time at sunrise = 0705 Position at sunrise = ²⁰⁰⁷ $19^{\circ}-54N$, $159^{\circ}-17W$

Time at sunset = Position at sunset =

Miles traveled from 0000 hours to sunrise = 63 mi

Miles traveled from sunrise to ~~sunset~~ ¹²⁰⁰ = 52 mi

Miles traveled from sunset to 2400 hours =

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	0553	STAR	20-0 159-28W	20-51N
2.	1002	LORAN	158-46W	21-05N
3.				
4.				
5.				
6.				

DATE 7 Dec 1964

Time at sunrise = Position at sunrise =
 Time at sunset = 1754 Position at sunset = 20-58N 158-44W
 Miles traveled from 0000 hours to sunrise =
 Miles traveled from ^{DEPT} sunrise to sunset = 42 MI
 Miles traveled from sunset to 2400 hours = 60 MILES

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	1700	LORAN & \odot	158-25W	21-05N
2.	1935	LORAN	158-49.5W	20-55.5
3.	2330	LORAN	159-23.5W	20-44.8N
4.				
5.				
6.				

DATE 8 DEC 1964

Time at sunrise = 0706 Position at sunrise = 160° 32 W 20° 18 N
 Time at sunset = 1808 Position at sunset = 162-14W 19.37N
 Miles traveled from 0000 hours to sunrise = 67 mi
 Miles traveled from sunrise to sunset = 103 mi
 Miles traveled from sunset to 2400 hours = 66 MILES

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	0226	Loran	159-52.1W	20°-34.6N
2.	0600	LORAN	160-26W	20-21N
3.	0700	CELESTIAL FIX	160 34W	20° 17 N
4.	1100	LORAN	161-11W	20°-02'N
5.	2246	LORAN	163-08W	19° 16'N
6.				

DATE 9 Dec 64

Time at sunrise 0622 Position at sunrise = 164-34W 18-41N
 Time at sunset 1228 Position at sunset = 166-20W 17-55N
 Miles traveled from 0000 hours to sunrise = 66 MILES
 Miles traveled from sunrise to sunset = 111 MILES
 Miles traveled from sunset to 2400 hours = 68 MILES.

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	<u>0600</u>	<u>CELESTIAL</u>	<u>164-30W</u>	<u>18-43N</u>
2.	<u>0800</u>	<u>LORAN</u>	<u>164-48W</u>	<u>18-33N</u>
3.	<u>1112</u>	<u>"</u>	<u>165-21W</u>	<u>18-20N</u>
4.	<u>2300</u>	<u>LORAN</u>	<u>167-21W</u>	<u>17-34N</u>
5.				
6.				

DATE 10 Dec 64

Time at sunrise 0630 Position at sunrise = 168-35W 17-01N
 Time at sunset 1745 Position at sunset = 169-07W 15-38N
 Miles traveled from 0000 hours to sunrise = 70
 Miles traveled from sunrise to sunset = 115 Mi
 Miles traveled from sunset to 2400 hours = 60 MILES

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	<u>0600</u>	<u>CELESTIAL</u>	<u>168-30W</u>	<u>17-05N</u>
2.	<u>1055</u>	<u>LAND.</u>	<u>169-15W</u>	<u>16-45N</u>
3.	<u>1200</u>	<u>Vis/Radar</u>	<u>169-25W</u>	<u>16-35N</u>
4.	<u>1910</u>	<u>CELESTIAL</u>	<u>169-05W</u>	<u>15-28N</u>
5.	<u>2235</u>	<u>LORAN</u>	<u>168-58W</u>	<u>14-55N</u>
6.				

50 mile point at 0700
1600

$$\frac{1}{2} = 1200$$

$$\begin{array}{r} 60 \overline{) 28.000} \\ 24.0 \\ \hline 4.0 \end{array}$$

DATE 11 Dec. 1964 FRI.

Time at sunrise 0632 Position at sunrise = 169-36 W 13-52 N
 Time at sunset 1800 Position at sunset = 170-52 W 12-32 N
 Miles traveled from 0000 hours to sunrise = 68 mi
 Miles traveled from sunrise to sunset = 108 mi
 Miles traveled from sunset to 2400 hours = 63 mi

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	<u>0600</u>	<u>Celestial</u>	<u>169-30 W</u>	<u>13-56 N</u>
2.	<u>1200</u>	<u>Noon</u>	<u>170-08 W</u>	<u>13-22 N</u>
3.	<u>1830</u>	<u>Celestial</u>	<u>170-50 W</u>	<u>12-30 N</u>
4.	<u>2100</u>	<u>Loran</u>	<u>171-14 W</u>	<u>12-08 N</u>
5.				
6.				

DATE SAT- 12 DEC. 1964

Time at sunrise 0634 Position at sunrise = 171-16 W 13-10 N
 Time at sunset 1750 Position at sunset = 170-05 W 14-25 N
 Miles traveled from 0000 hours to sunrise = 62 mi
 Miles traveled from sunrise to sunset = 101 mi
 Miles traveled from sunset to 2400 hours = 54 mi

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	<u>0600</u>	<u>Celestial</u>	<u>174-13 W</u>	<u>13-08 N</u>
2.	<u>1420</u>	<u>246 + SUN + LORAN</u>	<u>170-36 W</u>	<u>14-07 N</u>
3.				
4.				
5.				
6.	<u>1/2 = 1230</u>			

43

64



DATE Sun 13 Dec 1964

Time at sunrise 0622 Position at sunrise = 170-18W 15-18N
Time at sunset 1758 Position at sunset = 171-41W ^{W. of Pearl} 13-52N
Miles traveled from 0000 hours to sunrise = 65 mi
Miles traveled from sunrise to sunset = ~~120 mi~~ 117
Miles traveled from sunset to 2400 hours = 61 mi

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	<u>1200</u>	<u>R/Fix @</u>	<u>171°-01'W</u>	<u>14°-38'N</u>
2.	<u>1830</u>	<u>Celestial</u>	<u>171°-43W</u>	<u>13°-50N</u>
3.				
4.				
5.				
6.				

DATE Mon 14 Dec 1964

Time at sunrise 0645 Position at sunrise = 172-50W 14 02N
Time at sunset 1758 Position at sunset = 171-38W - 15-16N
Miles traveled from 0000 hours to sunrise = 63 mi
Miles traveled from sunrise to sunset = ~~120 mi~~ 98
Miles traveled from sunset to 2400 hours = 57 mi

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	<u>1454</u>	<u>SUN + LORAN + LAN</u>	<u>172°-00W</u>	<u>14°-55N</u>
2.	<u>1830</u>	<u>Celestial</u>	<u>171°-36W</u>	<u>15-17N</u>
3.				
4.				
5.				
6.				

0215 - halfway along 129 (F) (315° course)

DATE

Tu 15 Dec 1964

Time at sunrise 0645 Position at sunrise = 171-12W 16-41N
 Time at sunset 1800 Position at sunset = 172-30W 15-32N
 Miles traveled from 0000 hours to sunrise = 66 MI
 Miles traveled from sunrise to sunset = 105 MI
 Miles traveled from sunset to 2400 hours = 62 mi.

ca. 1700
 off the track 1 mi
 in N quadrant

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	0610	Celestial	171-05W	16-38N
2.	1200	LORAN + LORAN	171°-49'W	16°-10'N
3.	1510	SUN	172°-10'W	15°-50'N
4.	1830	Celestial	172-30W	15-30N
5.	2000	Celestial	172-44W	15-18N
6.				

DATE

We 16 Dec 1964

Time at sunrise =0655 Position at sunrise = Lo 174°-13'W Lat. ~~14°-57'N~~
 Time at sunset =1808 Position at sunset = Lat. 16°-02'N Long. 173°-13'W
 Miles traveled from 0000 hours to sunrise = 74 mi
 Miles traveled from sunrise to sunset = 88 mi
 Miles traveled from sunset to 2400 hours = 59 mi.

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	0626	Celestial *	174°-12'W	14°-53'N
2.	1200	LORAN/LORAN	173°-46'W	15°-26'N
3.	1500	SUN/LORAN	173°-34'W	15°-40'N
4.	1830	Celestial *	173°-10'W	16°-04'N
5.	2000	LORAN	172°-58'W	16°-15'N
6.				

DATE TH 17 Dec 1964

Time at sunrise 0648 Position at sunrise = L 17°-28'N λ 171-39'W

Time at sunset 1750 Position at sunset = L 18°-00'N λ 169-48'W

Miles traveled from 0000 hours to sunrise = 66 mi

Miles traveled from sunrise to sunset = 112 mi

Miles traveled from sunset to 2400 hours = 63 mi

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	<u>0612</u>	<u>stars</u>	<u>171°-45'W</u>	<u>17°-25'N</u>
2.	<u>1200</u>	<u>LORAN</u>	<u>170°-45'W</u>	<u>17°-43'N</u>
3.	<u>1853</u>	<u>stars</u>	<u>169°-41'W</u>	<u>18°-02'N</u>
4.	<u>2308</u>	<u>Loran</u>	<u>168°-56'W</u>	<u>18°-18'N</u>
5.				
6.				

DATE FR 18 Dec 1964

Time at sunrise = 0640 Position at sunrise = L 18°-42'N λ 167°-36'W

Time at sunset = 1731 Position at sunset = L 19°-12'N λ 165°-42'W

Miles traveled from 0000 hours to sunrise = 71 mi

Miles traveled from sunrise to sunset = 114

Miles traveled from sunset to 2400 hours = 69

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	<u>0600</u>	<u>STARS</u>	<u>167°-44'W</u>	<u>18°-40'N</u>
2.	<u>1130</u>	<u>LORAN</u>	<u>166°-47'W</u>	<u>18°-58'N</u>
3.	<u>1525</u>	<u>LORAN/SUN</u>	<u>166°-03'W</u>	<u>19°-07'N</u>
4.	<u>1803</u>	<u>STARS</u>	<u>165°-36'W</u>	<u>19°-13'N</u>
5.	<u>2255</u>	<u>Loran</u>	<u>164°-42'W</u>	<u>19°-26'N</u>
6.				

DATE 7 DEC. 1964

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUMID/O	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100															
0200															
0300															
0400															
0500															
0600															
0700															
0800															
0900															
1000															
1100															
1200															
1300															
1400															
1500	21° 18' N	158° 12' W	Pt CLD	15	1017	86	70.74	70	3	8	120-6-0	79	13	040	247° 10
1600	21° 09' N	158° 15.8' W	Pt cloud	15	1017	85	74	69	3	7	060-2'	79	13	050	247° - 10
1700	21° 05.4' N	158° 25' W	Pt CLDy	15	1017	84	72	72	3	7	070-6-3	79	13	050	247 9.6
1800	20° 59' N	158° 35' W	" "	15	1017	82	72	72	3	7	080-6-3	79	13	050	247 9.6
1900	20° 56' N	158° 44' W	" "	15	1017	78	72	83	3	7	090-6-3	79	13	080	247 9.8
2000	20° 53' N	158° 54' W	" "	15	1017	78	72	83	3	7	090-6-3	79	13	080	247 9.8
2100	20° 52' N	159° 03' W	Few Cls	15	1017	78	72	83	2	8	090-6-3	79	10	090	247 10
2200	20° 49' N	159° 10' W	"	15	1017	78	72	83	2	8	090-6-3	79	10	090	247 10
2300	20° 46' N	159° 19' W	"	15	1017	78	72	83	2	8	090-6-3	79	10	090	247 10
2400	20° 43' N	159° 28' W	"	15	1017	78	72	83	2	8	090-6-3	79	10	090	247 10

REMARKS:

ALL TIMES LOCAL (~~WHSKEY~~); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES; WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955
12-5-63

DATE Wed 16 Dec 1964

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUMID%	TL SKY	OPA SKY	SWELL WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	14-44N	173-26W	Clear	15	1009	78	69	75	0	10	060-6-4	80	-	-	228-10.5
0200	14-37N	173-33W	Clear	15	1009	78	69	75	0	10	060-6-4	80	-	-	228-10.5
0300	14-30N	173-42W	"	15	1008	78	69	75	0	10	060-6-4	80	-	-	228-10.5
0400	14-36N	173-49W	"	15	1008	78	69	75	0	10	060-6-4	80	-	-	228-10.5
0500	14-44N	173-56W	"	15	1008	78	69	75	0	10	060-6-4	80	-	-	315-10.
0600	14-51N	174-03W	"	15	1008	78	69	75	0	10	060-6-4	80	-	-	315-10.
0700	14-58N	174-11W	"	15	1008	78	69	75	0	10	060-6-4	80	-	-	315-10.
0800	15-02N	174-17W	"	15	1009	80	72	75	1	10	060-6-2	80	-	-	315-10
0900	15-08N	174-06W	Few Cls	15	1010	81	68	68	1	9	060-6-3	80	AIRS	-	045-9.5
1000	15-14N	173-59W	"	15	1010	81	68	68	1	9	060-6-3	80	"	-	045-9.5
1100	15-19N	173-55W	"	15	1010	81	68	68	1	9	060-6-3	80	"	-	045-9.5
1200	15-26N	173-47W	"	15	1010	81	68	68	1	9	060-6-3	80	"	-	045-10
1300	15-32N	173-40W	Ptly cldy	15	1009	81	68	68	2	8	060-6-3	81	6	180	045-10
1400	15-36N	173-37W	"	15	1008	81	68	68	3	7	060-6-3	81	8	130	045-10
1500	15-40N	173-34W	"	15	1008	81	68	68	3	7	060-6-3	81	7	120	045-10
1600	15-46N	173-27W	"	15	1008	81	68	68	2	7	060-6-3	81	5	110	045-10
1700	15-53N	173-20W	"	15	1008	81	68	68	5	5	060-6-3	81	AIRS	-	045-10
1800	16-00N	173-13W	"	15	1008	81	68	68	5	5	060-6-3	81	AIRS	-	045-10
1900	16-08N	173-06W	"	15	1008	80	68	68	2	8	060-6-3	81	AIRS	-	045-
2000	16-15N	172-58W	"	15	1000	80	68	68	1	9	060-6-3	81	AIR	-	045-
2100	16-22N	172-51W	Few Cls	15	1010	78	71	79	1	9	060-6-3	81	"	-	045-9.5
2200	16-28N	172-44W	"	15	1010	78	71	79	1	9	060-6-3	81	"	-	045-9.5
2300	16-35N	172-37W	"	15	1010	78	71	79	1	9	060-6-3	81	"	-	045-9.5
2400	16-42N	172-30W	"	15	1010	78	71	79	1	9	060-6-3	81	"	-	045-9.5

REMARKS:

XRAY
 ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;
 WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955
 12-5-63

1940 Half way Kilo leg

DATE Thurs. 17 Dec 1964

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUMID/O	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	16-49 N	172-23 W	Few Clouds	15	1009	78	71	79	1	9	060-6-3	80	4	190	045-9.5
0200	16-56 N	172-16 W	"	15	1009	78	71	79	1	9	060-6-3	80	6	205	045-9.5
0300	17-03 N	172-09 W	"	15	1008	78	71	79	1	9	060-6-3	80	8	205	045-9.5
0400	17-10 N	172-02 W	"	15	1008	78	71	79	1	9	060-6-3	80	10	200	045-9.5
0500	17-15 N	171-54 W	"	15	1008	79	71	79	1	9	060-6-3	80	10	210	045-9.5
0600	17-21 N	171-48 W	"	15	1008	78	71	79	1	9	060-6-3	80	10	210	045-9.5
0700	17-26 N	171-43 W	"	15	1008	78	71	79	1	9	060-6-3	80	10	210	073-9.5
0800	17-30 N	171-35 W	"	15	1009	78	71	79	2	8	CONF	80	10	210	073-9.5
0900	17-32 N	171-22 W	"	15	1009	80	72	75	2	8	CONF	80	10	200	073-10
1000	17-35 N	171-11 W	"	15	1009	80	72	75	2	8	"	80	10	200	073-10
1100	17-38 N	171-00 W	"	15	1009	80	72	75	2	8	"	80	10	200	073-10
1200	17-41 N	170-51 W	"	15	1009	80	72	75	2	8	"	80	10	200	073-10
1300	17-46 N	170-35 W	"	15	1008	82	74	75	2	8	"	80	12	205	073-10
1400	17-49 N	170-25 W	"	15	1007	82	74	76	4	6	"	80	16	210	073-10
1500	17-52 N	170-15 W	"	15	1007	84	76	76	3	7	"	80	17	210	073-10
1600	17-54 N	170-05 W	"	15	1007	84	76	76	3	7	"	80	18	215	073-10
1700	17-58 N	169-55 W	"	15	1007	84	76	76	3	7	"	80	18	215	073-10
1800	18-02 N	169-43 W	"	15	1007	82	72	75	3	7	"	80	20	215	073-10
1900	18-04 N	169-33 W	"	15	1008	80	72	75	3	7	"	80	20	215	073-10
2000	18-05 N	169-28 W	"	15	1008	80	72	75	3	7	"	80	20	215	073-10
2100	18-10 N	169-17 W	"	15	1009	79	72	83	3	7	215-6-4	80	20	215	073-10.3
2200	18-14 N	169-07 W	"	15	1009	79	72	83	3	7	215-6-4	80	20	215	073-10.3
2300	18-17 N	168-56 W	"	15	1009	79	72	83	3	7	215-6-4	80	20	215	073-10.3
2400	18-20 N	168-46 W	"	15	1009	79	72	83	3	7	215-6-4	80	20	215	073-10.3

REMARKS:

ALL TIMES LOCAL ^{XRAY}~~(WISKEY)~~; WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES; WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955
12-5-63

DATE Fri. 18 Dec. 1964

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUMID/O	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	18-23 N	168-36 W	Few clds	15	1008	80	74	83	3	7	215-6-4	80	20	220	073-10.3
0200	18-26 N	168-25 W	"	15	1008	80	74	83	3	7	215-6-4	80	20	220	073-10.3
0300	18-29 N	168-14 W	"	15	1008	80	74	83	3	7	215-6-4	80	20	220	073-10.3
0400	18-22 N	168-04 W	"	15	1008	80	74	83	3	7	215-6-4	80	20	220	073-10.3
0500	18-35 N	167-57 W	"	15	1008	80	74	83	3	7	215-6-4	80	20	220	073-10.3
0600	18-39 N	167-44 W	"	15	1009	80	74	83	3	7	215-6-4	80	20	220	073-10.3
0700	18-41 N	167-32 W	"	15	1009	80	74	83	3	7	215-6-4	80	20	220	073-10.3
0800	18-43 N	167-23 W	"	15	1007	80	74	83	3	7	215-6-4	80	20	220	073-10.3
0900	18-49 N	167-12 W	"	15	1008	81	73	79	3	7	225-6-5	80	20	225	076-10.3
1000	18-53 N	167-01 W	"	15	1008	81	73	79	3	7	225-6-5	80	20	225	076-10.3
1100	18-57 N	166-52 W	"	15	1008	81	73	79	3	7	225-6-5	80	20	225	076-10.3
1200	19-00 N	166-41 W	"	15	1008	81	73	79	3	7	225-6-5	80	20	225	076-10.3
1300	19-03 N	166-29 W	cloudy	15	1007	81	74	79	6	4	225-6-5	80	22	235	076-10.3
1400	19-04 N	166-18 W	"	15	1006	81	74	79	7	3	230-6-5	80	22	240	076-10.3
1500	19-06 N	166-07 W	"	15	1006	81	74	79	7	3	230-6-5	80	20	240	076-10.3
1600	19-08 N	165-56 W	"	15	1006	81	74	79	7	3	230-6-5	80	18	245	076-10.3
1700	19-14 N	165-47 W	"	15	1006	80	72	75	7	3	230-6-5	80	18	245	076-10.3
1800	19-17 N	165-37 W	"	15	1006	80	72	75	7	2	230-6-5	80	18	245	076-10.3
1900	19-18 N	165-26 W	"	15	1008	80	72	75	7	3	230-6-5	80	18	245	076-10.3
2000	19-21 N	165-15 W	"	15	1008	80	72	75	7	3	230-6-5	80	15	245	076-10.3
2100	19-20 N	165-03 W	SMALLS	15	1008	75	70	86	8	2	240-6-5	80	15	260	073-10.3
2200	19-23 N	164-52 W	"	15	1008	75	70	86	8	2	240-6-5	80	15	260	073-10.3
2300	19-26 N	164-41 W	"	15	1008	75	70	86	8	2	240-6-5	80	15	260	073-10.3
2400	19-29 N	164-31 W	"	15	1008	71	70	86	8	2	240-6-5	80	15	260	073-10.3

REMARKS:

XRAY

ALL TIMES LOCAL (~~WHISKEY~~); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES; WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955
12-5-63

DATE Sat. 19 Dec. 1964

Seville

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUMID	TOT SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	19° 30' N	164° 20' W	Squally	5	1008	76	72	87	1	9	240-6-5	79	15	280	073 10.5
0200	19° 32' N	164° 09' W	"	3	1008	76	72	87	0	10	240-6-5	79	14	300	073 10.5
0300	19° 34' N	163° 58' W	"	5	1007	76	72	87	0	10	250-6-5	79	8	275	070 10.5
0400	19° 38' N	163° 48' W	"	6	1008	76	72	87	0	10	250-6-5	79	7	270	070 10.5
0500	19° 42' N	163° 38' W	pt Cloudy	15	1008	76	72	87	5	5	250-6-5	79	7	290	070 10.5
0600	19° 45' N	163° 27' W	"	15	1008	76	72	87	5	5	270-6-5	79	7	290	070 10.5
0700	19° 50' N	163° 15' W	"	15	1009	78	69	75	3	8	270-6-5	79	7	290	070 10.5
0800	19° 53' N	163° 04' W	"	15	1009	78	69	75	3	8	270-6-5	79	7	290	070 10.5
0900	19° 50' N	162° 57' W	"	15	1009	81	68	68	4	6	315-10-10	79	12	290	070 10.1
1000	19° 53' N	162° 47' W	"	15	1009	81	68	68	4	6	315-10-10	79	12	290	070 10.1
1100	19° 56' N	162° 37' W	"	15	1009	81	68	68	4	6	315-10-10	79	12	290	070 10.1
1200	19° 59' N	162° 26' W	"	15	1009	81	68	68	4	6	315-10-10	79	12	290	070 10.1
1300	20° 02' N	162° 16' W	ov cast	12	1009	80	68	68	2	8	315-10-10	78	13	290	070 10.1
1400	20° 03' N	162° 06' W	ov cast	10	1008	78	66	67	1	9	315-10-10	78	14	285	070 10.1
1500	20° 05' N	161° 54' W	cloudy	12	1008	78	68	71	4	6	315-10-10	78	12	290	070 10.1
1600	20° 08' N	161° 45' W	pt cloudy	15	1009	78	69	75	8	2	315-10-10	78	10	280	070 10.1
1700	20° 11' N	161° 33' W	"	15	1010	78	69	75	5	5	315-10-10	78	10	280	070 10.1
1800	20° 15' N	161° 23' W	"	15	1010	78	69	75	4	6	315-10-10	78	10	280	070 10.1
1900	20° 20' N	161° 12' W	"	15	1010	78	69	75	4	6	315-10-10	78	10	280	070 10.1
2000	20° 22' N	161° 01' W	"	15	1011	78	69	75	4	6	315-10-10	78	10	280	070 10.1
2100	20° 26' N	160° 50' W	"	15	1011	78	69	75	4	6	315-10-10	78	10	280	077 10.5
2200	20° 30' N	160° 40' W	"	15	1011	78	69	75	4	6	315-10-10	78	10	280	077 10.5
2300	20° 33' N	160° 30' W	"	15	1011	78	69	75	4	6	315-10-10	78	10	280	077 10.5
2400	20° 36' N	160° 19' W	"	15	1011	78	69	75	4	6	315-10-10	78	10	280	077 10.5

REMARKS:

XRAY

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES; WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955
12-5-63

DATE SAT 12 DEC 1964

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY P	DEW PT	HUMID/O	TL SKY	OPA SKY	SWELL		SEA TEMP	WIND S	WIND D	SHIP COURSE/SPEED
											WAVES	SEA TEMP				
0100	12-37N	171-44W	clear	15	1011	80	73	79	1	9	070-6-5	81	18	075	315-10.5	
0200	12-44N	171-44W	"	15	1011	80	73	79	1	9	070-6-5	81	18	075	315-10.5	
0300	12-51N	171-36W	"	15	1010	80	73	79	1	9	070-6-5	81	15	095	048-10.5 80	
0400	12-58N	171-28W	"	15	1010	80	73	79	1	9	070-6-5	81	14	090	048-10.5	
0500	13-05N	171-25W	PT Cloudy	15	1010	80	72	79	2	8	070-6-5	81	14	080	048-10.9 74	
0600	13-11N	171-14W	"	15	1010	80	72	79	2	8	070-6-5	81	14	080	048-10.9 77	
0700	13-18N	171-06W	"	15	1010	80	72	79	2	8	070-6-5	81	14	080	048-10.9 74	
0800	13-18N	171-05W	"	15	1011	81	72	79	2	8	070-6-5	81	12	070	046-9	
0900	13-23N	170-59W	Few Cls	15	1011	82	72	72	1	9	070-6-5	81	15	070	046-9	
1000	13-28N	170-53W	"	15	1011	82	72	72	1	9	070-6-5	81	15	070	046-9	
1100	13-32N	170-47W	"	15	1011	82	72	72	1	9	070-6-5	81	15	070	046-9	
1200	13-39N	170-41W	"	15	1011	82	72	72	1	9	070-6-5	81	15	070	041-9	
1300	13-48N	170-36W	PT. Cloudy	15	1009	82	72	72	3	7	040-6-5	81	10	080	041-10	
1400	13-56N	170-31W	"	15	1008	82	72	72	5	5	040-6-5	81	6	095	041-10	
1500	14-05N	170-25W	"	15	1008	82	72	72	5	5	040-6-5	81	6	100	041-10	
1600	14-13N	170-19W	"	15	1009	82	74	76	4	6	040-6-5	81	6	100	041-10	
1700	14-19N	170-11W	"	15	1009	82	74	76	4	6	040-6-5	81	6	100	041-9.5	
1800	14-25N	170-05W	"	15	1009	82	74	76	4	6	040-6-5	81	6	100	041-9.5	
1900	14-32N	169-58W	"	15	1009	81	74	76	8	2	040-6-5	81	8	100	045-9	
2000	14-38N	169-52W	Specialy	10	1010	80	74	76	7	3	040-6-5	81	8	100	045-9	
2100	14-46N	169-46W	RAIN	10	1011	74	71	91	8	2	045-6-5	81	10	070	045-9	
2200	14-52N	169-39W	"	10	1011	74	71	91	8	2	045-6-5	81	10	070	045-9	
2300	14-59N	169-33W	"	10	1011	74	71	91	8	2	045-6-5	81	10	070	045-9	
2400	15-05N	169-27W	"	10	1011	74	71	91	8	2	045-6-5	81	10	070	045-9	

REMARKS:

ALL TIMES LOCAL (XRAY WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES; WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955
12-5-63

Sat Dec 13-1300 half way Leg Charley

DATE SUN 13 Dec 1964

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUMID%	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	15°-12N	169°-37W	Rain Squall	1 mi	1010	74	71	91	10	10	045-6-5	80	26	050	314-10
0200	15°-18N	169°-44W	"	1	1010	74	70	86	10	10	045-6-5	80	24	095	314-10
0300	15°-25N	169°-51W	ptly Cloudy	10	1010	76	70	82	3	7	045-6-5	80	18	110	314-10
0400	15°-33N	170°-00W	" "	10	1010	76	70	82	3	7	045-6-5	80	16	110	314-10
0500	15°-27N	170°-07W	" "	12	1010	76	70	82	7	3	045-6-4	80	16	110	325-10
0600	15°-20N	170°-16W	" "	12	1010	76	70	82	8	3	045-6-4	80	16	110	225-10
0700	15°-13N	170°-23W	" "	15	1010	78	70	82	8	3	045-6-3	80	16	330	225-10
0800	15°-12N	170°-23W	" "	15	1010	79	70	82	7	3	050-6-4	80	6	050	225-10
0900	15-03N	170-35W	Clear	15	1009	80	68	68	1	9	090-6-5	80	15	090	225 10.5
1000	14-55N	170-43W	"	15	1009	80	68	68	1	9	090-6-5	80	15	090	225 10.5
1100	14-48N	170-51W	"	15	1009	80	68	68	1	9	090-6-5	80	15	090	225 10.5
1200	14-40N	170-59W	"	15	1009	80	68	68	1	9	090-6-5	80	15	090	225 10.5
1300	14-32N	171-08W	"	15	1008	80	72	75	1	9	090-6-5	80	12	090	227-10.5
1400	14-25N	171-15W	"	15	1008	80	72	75	1	9	090-6-5	80	11	095	227-10.5
1500	14-18N	171-23W	"	15	1008	80	72	75	2	8	090-6-5	80	10	090	227-10.5
1600	14-11N	171-30W	"	15	1008	80	72	75	2	8	090-6-5	80	10	090	227-10.5
1700	14-02N	171-37W	PT CLOUDY	15	1008	80	72	75	2	8	090-6-5	80	10	090	227 10.5
1800	13-52N	171-41W	"	15	1008	80	72	75	2	8	090-6-5	80	10	090	227 10.5
1900	13-47N	171-48W	"	15	1008	80	72	75	2	8	090-6-5	80	10	090	227 10.5
2000	13-49N	171-54W	"	15	1010	80	72	75	2	8	090-6-5	80	10	090	227-10.5
2100	13-41N	172-03W	Few Cld	15	1010	80	72	75	2	8	090-6-5	80	10	090	225 10.5
2200	13-35N	172-12W	"	15	1010	80	72	75	2	8	090-6-5	80	10	090	225 10.5
2300	13-27N	172-20W	"	15	1010	80	72	75	2	8	090-6-5	80	10	090	225 10.5
2400	13-27N	172-30W	"	15	1010	80	72	75	2	8	090-6-5	80	10	090	225 10.5

REMARKS:

^{XRAY}
ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955
12-5-63

1400 half way mark easy grid

DATE MON. 14 DEC. 1964

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUMID/O	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	13-26N	172-37W	Few Clds	15	1009	80	73	79	2	8	090-6-5	80	10	095	315-10.5
0200	13-33N	172-44W	"	15	1009	80	73	79	2	8	090-6-5	80	9	105	315-10.5
0300	13-40N	172-51W	"	15	1008	80	73	79	2	8	090-6-5	80	10	060	315-10.5
0400	13-46N	172-57W	"	15	1008	80	73	79	2	8	090-6-5	80	10	040	315-10.5
0500	13-52	173-01W	"	15	1008	80	73	79	2	8	090-6-5	80	10	040	315-9
0600	14-00	172-54W	"	15	1008	80	73	79	2	8	090-6-5	80	10	040	045-9
0700	14-05	172-57W	"	15	1010	80	73	79	2	8	070-6-4	80	7	040	045-9
0800	14-08	172-49W	"	15	1012	80	72	79	5	8	070-6-4	80	7	130	048-9
0900	14-16H	172-43W	"	15	1011	82	74	76	2	8	050-6-6	80	5	050	045-9
1000	14-22H	172-36W	"	15	1011	82	74	76	2	8	050-6-6	80	5	050	045-9
1100	14-28H	172-29W	"	15	1011	82	74	76	2	8	050-6-6	80	5	050	045-9
1200	14-34H	172-23W	"	15	1011	82	74	76	2	8	050-6-6	80	5	050	045-9
1300	14-41N	172-14W	ptly cldy	15	1010	81	71	72	2	8	050-6-6	81	3	050	045-9
1400	14-48N	172-07W	"	15	1009	81	71	72	2	8	050-6-6	81	2	045	045-9
1500	14-56N	172-00W	"	15	1009	80	70	72	2	8	050-6-6	81	4	045	045-9.5
1600	15-02N	171-53W	"	15	1009	80	70	72	2	8	050-6-6	81	5	045	045-9.5
1700	15-08N	171-45W	"	15	1009	80	70	72	2	8	050-6-6	81	5	045	045-9.5
1800	15-16N	171-38W	"	15	1009	80	70	72	2	8	050-6-6	81	5	045	045-9.5
1900	15-21N	171-31W	"	15	1009	80	70	72	2	8	050-6-6	81	5	045	045-9.5
2000	15-29N	171-25W	"	15	1010	80	70	72	2	8	050-6-6	81	5	045	045-9.5
2100	15-36H	171-18W	Clear	15	1011	79	70	72	0	10	060-6-6	81	0	-	045-9.5
2200	15-42H	171-11W	"	15	1011	79	70	72	0	10	060-6-6	81	0	-	045-9.5
2300	15-48H	171-04W	"	15	1011	79	70	72	0	10	060-6-6	81	0	-	045-9.5
2400	15-56H	170-58W	"	15	1011	79	70	72	0	10	060-6-6	81	0	-	045-9.5

REMARKS:

XRAY

ALL TIMES LOCAL (WISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES; WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955
12-5-63

0215
~~0220~~ Half way into Fox Trot leg
1800 " " " Golf " "

DATE Tue. 15 Dec. 1964

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUMID %	TL SKY	OPA SKY	WAVES ^{SWELL}	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	16-02.5N	170-50W	plty Cloud	15	1010	78	69	75	2	8	060-6-6	80	2	025	045-9.5
0200	16-09N	170-42W	"	4	1010	78	69	75	2	8	060-6-6	80	2	045	045-9.5
0300	16-16N	170-43W	"	15	1010	78	69	75	2	8	060-6-6	80	4	060	313-9.5
0400	16-23N	170-50W	"	15	1010	78	69	75	2	8	060-6-6	80	6	070	313-9.5
0500	16-30N	170-59W	"	15	1010	78	69	75	2	8	060-6-6	80	6	070	313-9.5
0600	16-38N	171-05W	"	15	1010	78	69	75	2	8	060-6-6	80	6	070	313-9.5
0700	16-42N	171-15W	"	15	1010	78	69	75	2	8	060-6-6	80	6	070	313-9.5
0800	16-43N	171-16W	"	15	1010	79	69	75	2	8	040-6-2	80	-	-	225-10
0900	16-31N	171-27W	Few Cls	15	1011	81	70	72	1	9	060-6-4	80	-	-	225-10.5
1000	16-23N	171-35W	"	15	1011	81	70	72	1	9	060-6-4	80	-	-	225-10.5
1100	16-16N	171-43W	"	15	1011	81	70	72	1	9	060-6-4	80	-	-	225-10.5
1200	16-09N	171-50W	"	15	1011	81	70	72	1	9	060-6-4	80	-	-	225-10.5
1300	16-03N	171-56W	"	15	1010	81	70	72	1	9	060-6-4	81	2	030	225-10.5
1400	15-56N	172-02W	"	15	1009	80	70	72	1	9	060-6-4	81	4	010	225-10.5
1500	15-51N	172-08W	"	15	1009	80	70	72	1	9	060-6-4	81	-	-	225-9.5
1600	15-45N	172-15W	"	15	1009	80	70	72	1	9	060-6-4	81	-	-	225-9.5
1700	15-38N	172-22W	"	15	1009	80	70	72	1	9	060-6-4	81	-	-	225-9.5
1800	15-30N	172-30W	"	15	1009	80	70	72	1	9	060-6-4	81	-	-	225-9.5
1900	15-24N	172-37W	"	15	1009	80	70	72	1	9	060-6-4	81	-	-	225-9.5
2000	15-16N	172-45W	"	15	1010	80	70	72	1	9	060-6-4	81	-	-	225-10
2100	15-12N	172-53W	Clear	15	1010	79	68	71	0	10	060-6-4	81	-	-	228 10.5
2200	15-05N	173-01W	"	15	1010	79	68	71	0	10	060-6-4	81	-	-	228 10.5
2300	14-59N	173-10W	"	15	1010	79	68	71	0	10	060-6-4	81	-	-	228 10.5
2400	14-51N	173-19W	"	15	1010	79	68	71	0	10	060-6-4	81	-	-	228 10.5

REMARKS:

ALL TIMES LOCAL ^{XRAY} (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES; WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955
12-5-63

1730 kof way through Itam Track.

DATE 8 December 1964

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUMID %	TL SKY	OPA SKY	swell WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SFD.
0100	20-42.9N	159-37.0W	Pt. cloudy	15	1016	79	72	79	1	9	130-6-3	79	6	080	247-9
0200	20-36.0N	159-46.0W	"	15	1016	77	71	82	2	8	130-6-2	79	7+5	070	247-9
0300	20-32.5N	159-57.5W	"	15	1015	78	71	79	2	8	130-6-2	79	6	015	247-9
0400	20-28.8N	160-06.5W	"	15	1015	78	72	83	2	8	130-6-2	79	6	040	247-9
0500	20-20N	160-15W	"	15	1015	78	72	83	2	8	130-6-2	79	6	040	247-9
0600	20-21N	160-25W	"	15	1015	78	72	83	2	8	130-6-2	79	6	040	247-9
0700	20-17N	160-34W	"	15	1015	78	72	83	2	8	130-6-2	79	6	040	247-9
0800	20-14N	160-44W	"	15	1017	78	72	83	5	6	130-6-2	79	10	025	246-9.5
0900	20-09N	160-53W	Partly clear	15	1017	79	75	91	2	8	315-6-5	79	12	020	246-9.5
1000	20-05N	161-01W	"	15	1017	79	75	91	2	8	315-6-5	79	12	020	246-9.5
1100	20-02N	161-11W	"	15	1017	79	75	91	2	8	315-6-5	79	12	020	246-9.5
1200	19-58N	161-20W	"	15	1017	79	75	91	2	8	315-6-5	79	12	020	246-9.5
1300	19-54N	161-29W	"	15	1016	79	73	83	2	8	315-6-5	79	12	030	246-9.5
1400	19-52N	161-39W	"	15	1015	80	72	75	1	9	315-6-5	79	12	045	246-9.5
1500	19-50N	161-49W	"	15	1015	80	72	75	1	9	315-6-5	79	12	045	246-9.5
1600	19-45N	161-57W	"	15	1015	80	72	75	1	9	315-6-5	79	12	040	246-9.5
1700	19-42N	162-05W	"	15	1015	80	72	75	1	9	315-6-5	79	12	060	246-9.5
1800	19-37N	162-12W	"	15	1015	80	72	75	1	9	315-6-5	79	12	060	246-9.5
1900	19-33N	162-24W	"	15	1015	79	72	83	3	7	315-6-5	79	12	060	246-9.5
2000	19-31N	162-33W	"	15	1015	79	72	83	3	7	120-6-3	79	12	060	246-9.5
2100	19-26N	162-43	Clear	15	1016	78	71	79	1	9	120-6-3	79	10	080	246-10
2200	19-21N	162-53	"	15	1016	78	71	79	1	9	120-6-3	79	10	080	246-10
2300	19-17N	163-05	"	15	1016	78	71	79	1	9	120-6-3	79	10	080	246-10
2400	19-12N	163-19	"	15	1016	78	71	79	1	9	120-6-3	79	10	080	246-10

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES; WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955
12-5-63

DATE 9 Dec 1964

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUMID/O	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	19-06N	163-31W	Clear	15	1016	78	71	79	0	10	120-6-3	79	12	075	246-10
0200	19-02N	163-42W	"	15	1015	78	71	79	0	10	120-6-3	79	12	075	246-10
0300	18-57N	163-54W	"	15	1014	78	69	75	0	10	120-6-3	79	12	065	246-10
0400	18-53N	164-03W	"	15	1014	78	69	75	0	10	120-6-3	79	12	060	246-10
0500	18-48N	164-15W	PT CLDY	15	1014	78	69	75	1	9	120-6-3	79	12	060	246-10
0600	18-43N	164-26W	"	15	1014	78	69	75	1	9	120-6-3	79	12	060	246-10
0700	18-39N	164-37W	"	15	1014	78	69	75	1	5	120-6-3	79	12	060	246-10
0800	18-34N	164-47W	"	15	1015	80	72	75	2	9	120-6-3	80	12	060	246-10
0900	18-30N	164-57W	FEW CLD	15	1016	81	72	75	2	8	090-5-5	80	13	070	246-10.5
1000	18-26N	165-07W	"	15	1016	81	72	75	2	8	090-5-5	80	13	070	246-10.5
1100	18-21N	165-17W	"	15	1016	81	72	75	2	8	090-5-5	80	13	070	246-10.5
1200	18-16N	165-29W	"	15	1016	81	72	75	2	8	090-5-5	80	13	070	246-10.5
1300	18-13N	165-40W	"	15	1015	81	72	75	2	8	090-5-5	80	15	060	246-10.5
1400	18-10N	165-50W	"	15	1014	81	73	76	2	8	090-5-5	80	16	055	246-10.5
1500	18-05N	166-01W	"	15	1014	80	72	75	2	8	090-8-5	80	16	060	246-10.5
1600	18-01N	166-11W	"	15	1014	80	72	75	2	8	090-9-5	80	18	060	246-10.5
1700	17-58N	166-14W	"	15	1014	80	72	75	2	8	090-9-5	80	15	060	246-7
1800	17-54N	166-24W	"	15	1014	80	72	75	2	8	090-9-5	80	15	060	246-10.5
1900	17-50N	166-36W	"	15	1014	80	72	75	2	5	090-9-5	80	15	060	246-10.5
2000	17-45N	166-46W	"	15	1015	79	72	75	2	8	010-4-5	80	15	060	246-10.5
2100	17-42N	166-57W	"	15	1015	79	72	75	1	9	000-7-5	79	15	060	246-10.5
2200	17-39N	167-07W	"	15	1015	79	72	75	1	9	000-7-5	79	15	060	246-10.5
2300	17-35N	167-20W	"	15	1015	79	72	75	1	9	000-7-5	79	15	060	246-10.5
2400	17-31N	167-31W	"	15	1015	79	72	75	1	9	000-7-5	79	15	060	244-10.5

REMARKS:

VICTOR (+11)

ALL TIMES LOCAL (~~WHISKEY~~); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES; WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955
12-5-63

DATE 10 Dec. 1964

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUMID %	TL SKY	OPA SKY	SWELL WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPEED
0100	17° 26 N	167° 41 W	Ptly Cloudy	15	1014	79	72	79	2	8	000-7-5	79	15	065	244-10.5
0200	17° 21 N	167° 50 W	Ptly Cloudy	15	1014	79	72	79	2	8	000-7-5	79	14	075	244-10.5
0300	17° 17 N	168° 00 W	"	15	1014	79	72	79	2	8	000-7-5	79	15	070	244-10.5
0400	17° 13 N	168° 09 W	"	15	1014	79	72	79	2	8	000-7-5	79	16	070	244-10.5
0500	17° 10 N	168° 20 W	"	15	1014	79	72	79	2	8	000-7-5	79	16	070	244-10.5
0600	17° 05 N	168° 30 W	"	15	1014	79	72	79	2	8	000-7-5	79	15	070	244-10.5
0700	16° 59 N	168° 40 W	"	15	1014	79	72	79	2	8	000-7-5	79	15	070	244-10.5
0800	16° 55 N	168° 49 W	"	15	1015	80	72	75	2	8	000-7-4	80	15	070	244-10.8
0900	16° 51 N	168° 59 W	Few Cls	15	1015	85	70	62	1	9	000-6-7	80	20	070	240-11.0
1000	16° 48 N	169° 08 W	"	15	1015	85	70	62	1	9	000-6-7	80	20	070	240-11.0
1100	16° 44 N	169° 15 W	"	15	1015	85	70	62	1	9	000-6-7	80	20	070	240-11.0
1200	16° 39 N	169° 25 W	"	15	1015	85	70	62	1	9	000-6-7	80	20	070	240-11.0
1300	16° 35 N	169° 22 W	"	15	1014	80	70	72	1	9	000-6-7	80	16	075	162-10.5
1400	16° 21 N	169° 21 W	"	15	1013	80	70	72	2	8	000-6-7	80	15	065	162-10.5
1500	16° 15 N	169° 19 W	"	15	1013	80	70	72	2	8	000-6-7	80	15	065	162-10.5
1600	16° 05 N	169° 16 W	"	15	1013	80	70	72	2	8	000-6-7	80	15	065	162-10.5
1700	15° 44 N	169° 10 W	"	15	1013	80	70	72	2	8	000-6-7	80	15	065	162-10.5
1800	15° 35 N	169° 05 W	"	15	1014	80	70	72	2	8	000-6-7	80	15	065	162-10.5
1900	15° 26 N	169° 02 W	"	15	1014	80	70	72	2	8	000-6-7	80	15	065	162-10.5
2000	15° 18 N	168° 58 W	"	15	1014	80	70	72	2	8	000-6-6	80	15	065	162-10
2100	15° 08 N	168° 03 W	"	15	1014	79	69	72	1	9	070-6-7	80	15	070	162-10
2200	15° 00 N	169° 00 W	"	15	1014	79	69	72	1	9	070-6-7	80	15	070	162-10
2300	14° 50 N	168° 56 W	"	15	1014	79	69	72	1	9	070-6-7	80	15	070	162-10
2400	14° 40 N	168° 53 W	"	15	1014	79	69	72	1	9	070-6-7	80	15	070	162-10

REMARKS:

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ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES; WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955
12-5-63

DATE 11 Dec. 1964

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUMID/O	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	14°-31 N	168°-50 W	Few Clouds	15	1013	79	70	75	1	9	070-6-7	80	18	060	222-10.5
0200	14°-20 N	169°-01 W	"	15	1013	79	73	83	1	9	070-6-7	80	18	060	222-10.5
0300	14°-11 N	169°-08 W	"	15	1012	79	72	79	2	8	070-6-7	80	14	060	222-10.5
0400	14°-02 N	169°-14 W	"	15	1012	79	72	79	2	8	070-6-7	80	15	060	222-10.5
0500	13°-58 N	169°-20 W	"	15	1012	79	72	79	2	F	070-6-6	80	14	060	222-10.5
0600	13°-50 N	169°-24 W	"	15	1012	79	72	79	2	8	070-6-6	80	14	060	222-10.5
0700	13°-45 N	169°-32 W	"	15	1012	79	72	79	2	8	070-6-6	80	14	060	222-10.5
0800	13°-45 N	169°-38 W	"	15	1013	79	72	79	2	8	070-6-3	80	12	060	220-10.3
0900	13°-42 N	169°-47 W	"	15	1013	82	74	76	1	9	070-6-5	80	15	070	218-10
1000	13°-35 N	169°-54 W	"	15	1013	82	74	76	1	9	070-6-5	80	15	070	218-10
1100	13°-30 N	170°-00 W	"	15	1013	82	74	76	1	9	070-6-5	80	15	070	218-10
1200	13°-21 N	170°-08 W	"	15	1013	82	74	76	1	9	070-6-5	80	15	070	218-10
1300	13°-13 N	170°-15 W	"	15	1012	83	72	69	1	9	070-6-5	81	15	070	218-10
1400	13°-05 N	170°-22 W	"	15	1011	83	72	69	1	9	070-6-5	81	15	070	218-10
1500	12°-57 N	170°-30 W	"	15	1011	82	72	72	1	9	070-6-5	81	15	070	218-10
1600	12°-49 N	170°-38 W	"	15	1011	81	73	75	1	9	070-6-5	81	15	070	218-10
1700	12°-40 N	170°-44 W	Partly Cloud	15	1011	81	73	75	2	8	070-6-5	81	15	070	218-10
1800	12°-32 N	170°-52 W	"	15	1011	81	73	75	2	8	070-6-5	81	15	070	218-10
1900	12°-25 N	171°-01 W	"	15	1011	80	73	75	2	8	070-6-5	81	15	070	218-10
2000	12°-20 N	171°-13 W	"	15	1011	80	73	75	2	8	070-6-5	81	15	070	218-10
2100	12°-07 N	171°-15 W	Bleak	15	1012	80	73	75	1	9	070-6-5	81	15	070	315-10.5
2200	12°-14 N	171°-22 W	"	15	1011	80	73	75	1	9	070-6-5	81	15	070	315-10.5
2300	12°-22 N	171°-29 W	"	15	1011	80	73	75	1	9	070-6-5	81	15	070	315-10.5
2400	12°-30 N	171°-37 W	"	15	1011	80	73	75	1	9	070-6-5	81	15	070	315-10.5

REMARKS:

XRAY

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES; WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955
12-5-63

DATE SUN 20 Dec 1964

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUMID %	TL SKY	OPA SKY	SWELL WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	20°-37N	160-18 W	ptly cloudy	15	1011	78	69	75	4	6	315-10-8	78	6	235	073-10.5
0200	20°-40N	160-08 W	"	15	1011	78	69	75	3	7	315-10-8	78	7	215	073-10.5
0300	20°-43 N	159-58 W	"	15	1010	77	71	82	4	6	315-10-8	78	5	220	073-10.5
0400	20°-46 N	159-46 W	"	15	1010	78	69	75	4	6	315-10-8	78	5	225	073-10.5
0500	20-49 N	159-35 W	"	15	1010	78	65	75	3	7	315 10 S	78	5	210	073-10.5
0600	20-52 N	159-25 W	"	15	1012	78	65	75	3	7	315 10 S	78	8	210	075-10.5
0700	20-54 N	159-14 W	"	15	1012	78	69	75	2	8	315 10 S	79	11	210	075-10.5
0800	20-56 N	159-08 W	"	15	1012	78	69	75	2	8	315 10 S	79	12	210	075-10.5
0900	21-01 N	158-57 W	Few Cls	15	1011	78	69	75	2	8	315-10-8	79	15	215	078-10.5
1000	21-04 N	158-47 W	"	15	1011	78	69	75	2	8	315-10-8	79	15	215	078-10.5
1100	21-06 N	158-37 W	"	15	1011	78	69	75	2	8	315-10-7	79	15	215	080-10.5
1200	21-09 N	158-26 W	"	15	1011	78	69	75	2	8	315-10-7	79	15	215	080-10.5
1300															
1400															
1500															
1600															
1700															
1800															
1900															
2000															
2100															
2200															
2300															
2400															

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES; WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

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