Q. TYPHOON GILDA (13-21 DECEMBER 1959)

On 10 December, surface and winds aloft reports from Truk indicated the possibility of a tropical cyclone developing to the southeast of the Island. Reconnaissance was requested, and at 110330Z a weak center was fixed approximately 400 miles south-southeast of Guam. The next fix, at 120152Z, indicated that the tropical low had remained almost stationary during the privious 24 hours and had intensified only slightly. On the following day, within less than three hours, two separate centers were fixed. One, with a central pressure of 1002 millibars, was centered just south of Ifalik Atoll. The other, located some 80 miles to the northwest of Ifalik, had a central pressure of 1000 millibars. Twelve hours later, at 132130Z, a fix confirmed the fact that the two lows had rapidly consolidated into a full-blown typhoon with a central pressure of 977 millibars. Warning number 1 on Typhoon GILDA was issued shortly after the receipt of the fix.

For the next three days GILDA moved to the west-northwest at an average speed of 11 knots while continuing to intensify. At the end of this three day period (approximately 161800Z) GILDA began to decelerate rapidly. At the same time a weak trough aloft in the westerlies moved into the Luzon Straits. This trough, coupled with the aforementioned deceleration, led to a forecast of recurvature. However, the trough did not deepen appreciably or extend far enough south to cause recurvature. Then, at approximately 180000Z, GILDA began moving almost due west and started to accelerate rapidly. Two

days later, at approximately 200000Z, GILDA began to decelerate rapidly and by 200600Z was moving at 12 knots toward Viet Nam on a track which was slightly south of west. The final warning, issued at 210000Z, contained a forecast for rapid dissipation over Viet Nam to the northeast of Saigon.

Typhoon GILDA was typical of December climatology. The path was very similar to that of Typhoon GLORIA in 1952. The abrupt westward movement on the 18th came unexpectedly and could not have been forecast from the sparse upper air data available. At approximately 190800Z GILDA passed directly over the U.S. Coast Guard Loran Station on Talampalan Island in the western Philippines. Coast Guard observers estimated the maximum sustained wind to have been 80 knots with gusts to 140 knots. Thirty warnings were issued covering a period of 9 days.

For damage caused by Typhoon GILDA see Section VI, "Destructive Effects of Typhoons."

RECONNAISSANCE AIRCRAFT FIXES - TYPHOON GILDA

FIX NO.	TIME	LAT.	LONG.	*UNIT METHOD & ACCY	MIN SLP MBS	MAX SFC WND	MIN 700MB HGT	MAX FLT LVL WND	700MB TEMP (°C)	700MB DEWPT (°C)	EYE CHARACTERISTICS
1	110330Z	06.8N	146.0E	54-P--	- -	- -	- -	- -	- -	- -	————
2	120152Z	06.6N	145.9E	54-P-5	1001	25	10160	25	12	08	EYE ILL DEFINED
3	130024Z	07.6N	143.1E	54-R-2	1002	- -	10020	45	10	10	WALL CLDS NE QUAD
4	130314Z	07.6N	142.9E	54-P--	1000	50	- -	- -	- -	- -	————
5	132130Z	07.4N	140.8E	54-P-5	977	80	9660	75	13	09	CIRC DIA 10 MI
6	140200Z	07.4N	140.2E	54-P-5	980	80	9570	80	14	12	CIRC DIA 20 MI
7	140800Z	07.7N	139.2E	54-P-5	969	100	9210	70	17	12	CIRC DIA 20 MI
8	141400Z	08.0N	138.4E	54-R-10	- -	- -	- -	- -	- -	- -	CIRC DIA 10 MI
9	142135Z	08.0N	137.0E	54-P-5	945	100	8360	110	17	14	CIRC DIA 12 MI
10	150000Z	08.4N	136.6E	54-P-10	938	100	8300	110	17	14	CIRC DIA 12 MI
11	150800Z	08.4N	135.6E	54-P-8	932	150	8300	120	16	12	CIRC DIA 12 MI
12	151400Z	08.7N	134.7E	54-R-10	- -	- -	- -	- -	- -	- -	————
13	152200Z	09.3N	132.6E	54-P-20	933	125	8180	130	18	12	CIRC DIA 20 MI
14	160140Z	09.6N	132.4E	54-P-10	926	150	8120	125	20	13	CIRC DIA 20 MI
15	160800Z	10.1N	130.9E	54-P-15	914	150	7540	135	22	16	CIRC DIA 15 MI
16	161345Z	10.3N	129.8E	54-R-20	- -	- -	- -	- -	- -	- -	WIDE SPREAD RAIN
17	162200Z	11.3N	128.6E	54-P-10	920	135	7980	120	17	13	WALL CLDS ALL QUADS

RECONNAISANCE AIRCRAFT FIXES - TYPHOON GILDA (CONT'D)

FIX NO	TIME	LAT.	LONG.	*UNIT METHOD & ACCY	MIN SLP MBS	MAX SFC WND	MIN 700MB HGT	MAX FLT LVL WND	700MB TEMP (°C)	700MB DEWPT (°C)	EYE CHARACTERISTICS
18	170200Z	11.5N	128.2E	54-P-10	933	165	8030	110	17	14	CIRC DIA 17 MI
19	170800Z	11.5N	127.8E	54-P-5	- -	90	8280	115	15	15	CIRC DIA 15 MI
20	171130Z	11.5N	127.6E	54-R-10	- -	- -	- -	- -	- -	- -	———
21	172000Z	12.2N	126.3E	54-R-15	- -	- -	- -	- -	- -	- -	———
22	172300Z	12.2N	125.8E	54-P-10	939	150	8310	90	18	15	ELLIP DIA 15 MI
23	180810Z	12.0N	124.3E	54-P-2	- -	- -	- -	80	- -	- -	———
24	182000Z	12.2N	122.1E	54-R-5	- -	- -	- -	- -	- -	- -	———
25	182300Z	12.3N	121.3E	54-P-1	978	80	- -	60	- -	- -	CIRC DIA 25 MI
26	190100Z	12.2N	121.1E	54-P-1	- -	100	- -	30	- -	- -	CIRC DIA 25 MI
27	191945Z	12.7N	117.6E	54-RT-5	- -	- -	- -	- -	- -	- -	ELLIP DIA 22 MI
28	192300Z	12.6N	116.9E	54-P-5	984	150	9660	70	21	18	CIRC DIA 30 MI
29	200200Z	12.6N	116.3E	54-P-5	985	150	9680	70	18	15	ELLIP DIA 30 MI

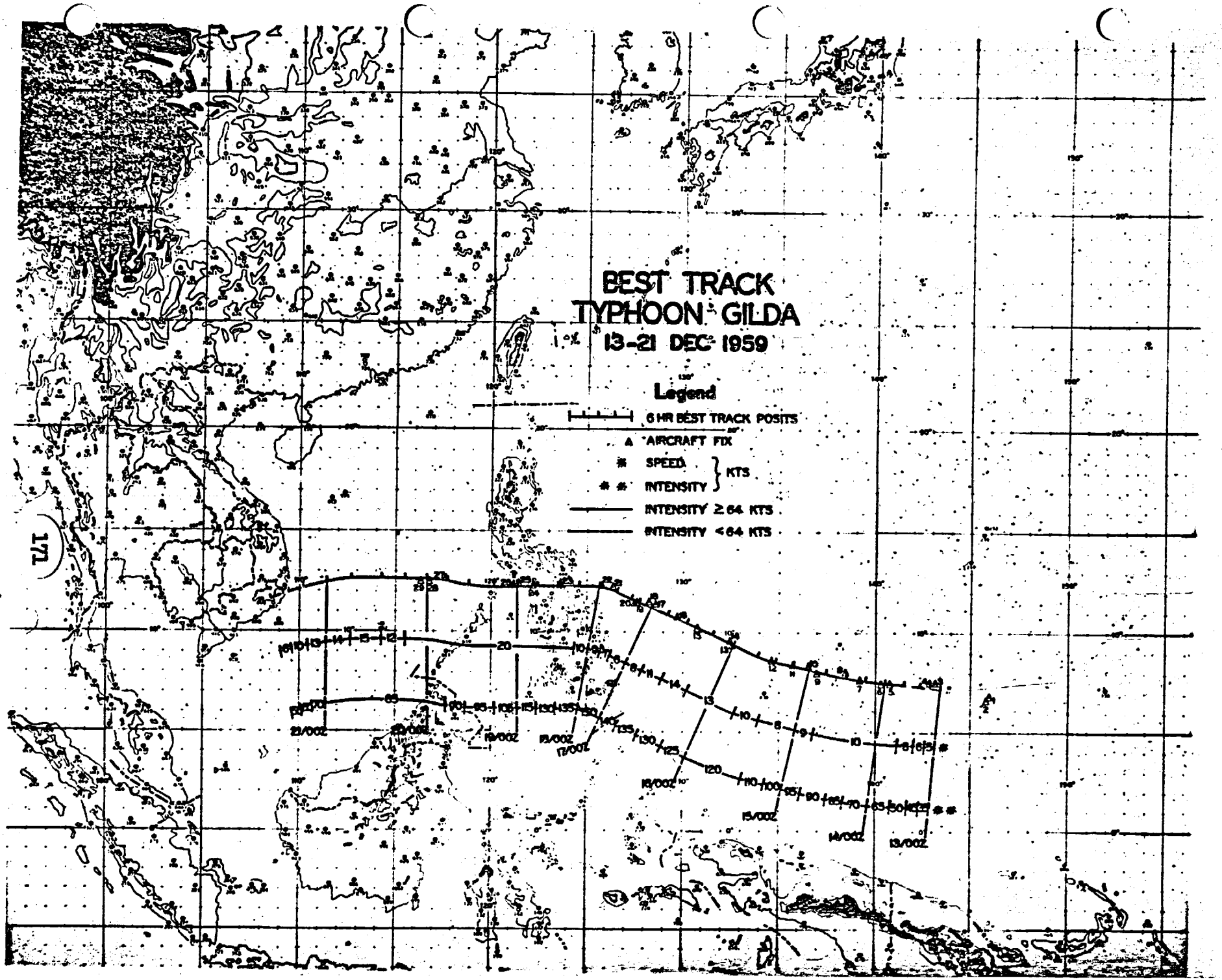
TYPHOON GILDA 13 - 21 DEC. 1959
POSITION AND FORECAST VERIFICATION DATA

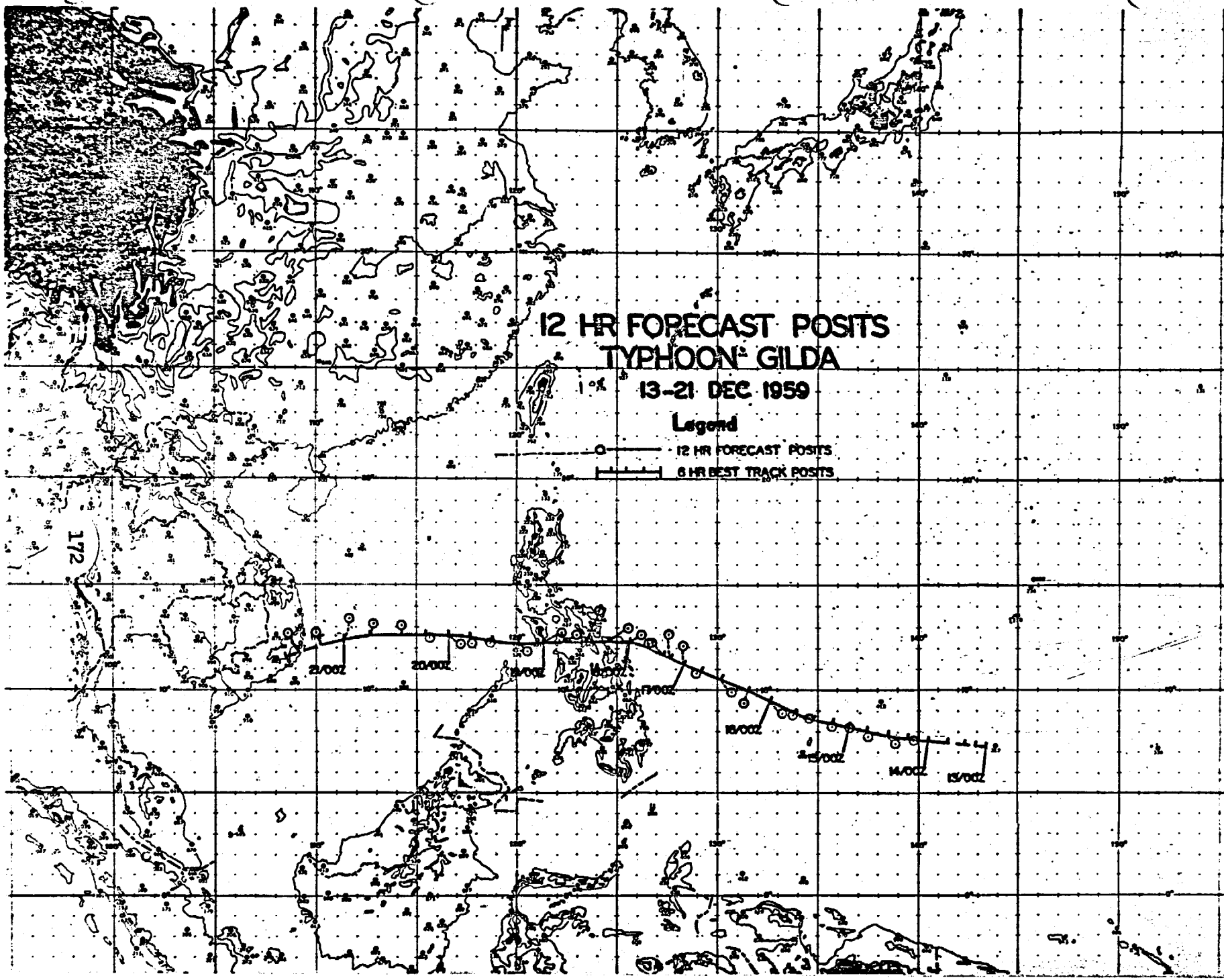
DTG	STORM POSITION LAT.	LONG.	12 HR ERROR DEG.	DISTANCE	24 HR ERROR DEG.	DISTANCE
130000Z	07.1N	143.4E	- - - -		- - - -	
130600Z	07.2N	142.9E	- - - -		- - - -	
131200Z	07.3N	142.3E	- - - -		- - - -	
131800Z	07.3N	141.5E	- - - -		- - - -	
140000Z	07.4N	140.5E	- - - -		- - - -	
140600Z	07.6N	139.5E	108	23	- - - -	
141200Z	07.8N	138.5E	137	34	- - - -	
141800Z	08.0N	137.5E	180	12	110	56
150000Z	08.1N	136.6E	360	06	135	61
150600Z	08.3N	135.8E	270	06	225	25
151200Z	08.5N	134.9E	292	21	270	19
151800Z	08.8N	133.9E	270	06	230	16
160000Z	09.3N	132.7E	131	36	195	20
160600Z	09.9N	131.5E	201	26	148	45
161200Z	10.4N	130.2E	135	43	135	102
161800Z	10.9N	129.2E	256	11	193	64
170000Z	11.2N	128.4E	351	55	155	47
170600Z	11.5N	127.8E	350	86	282	64
171200Z	11.7N	127.3E	327	47	343	136
171800Z	12.0N	126.6E	020	12	348	137
180000Z	12.2N	125.7E	047	38	003	56
180600Z	12.2N	124.7E	045	68	062	80
181200Z	12.2N	123.5E	036	55	050	119
181800Z	12.2N	122.4E	049	49	055	167
190000Z	12.2N	121.2E	057	74	045	121
190600Z	12.2N	120.1E	121	32	055	99
191200Z	12.3N	118.9E	245	11	060	136
191800Z	12.5N	117.8E	165	15	143	55
200000Z	12.6N	116.7E	248	36	115	46
200600Z	12.6N	115.5E	123	12	165	25
201200Z	12.6N	114.3E	355	31	115	60
201800Z	12.6N	112.8E	013	33	070	24

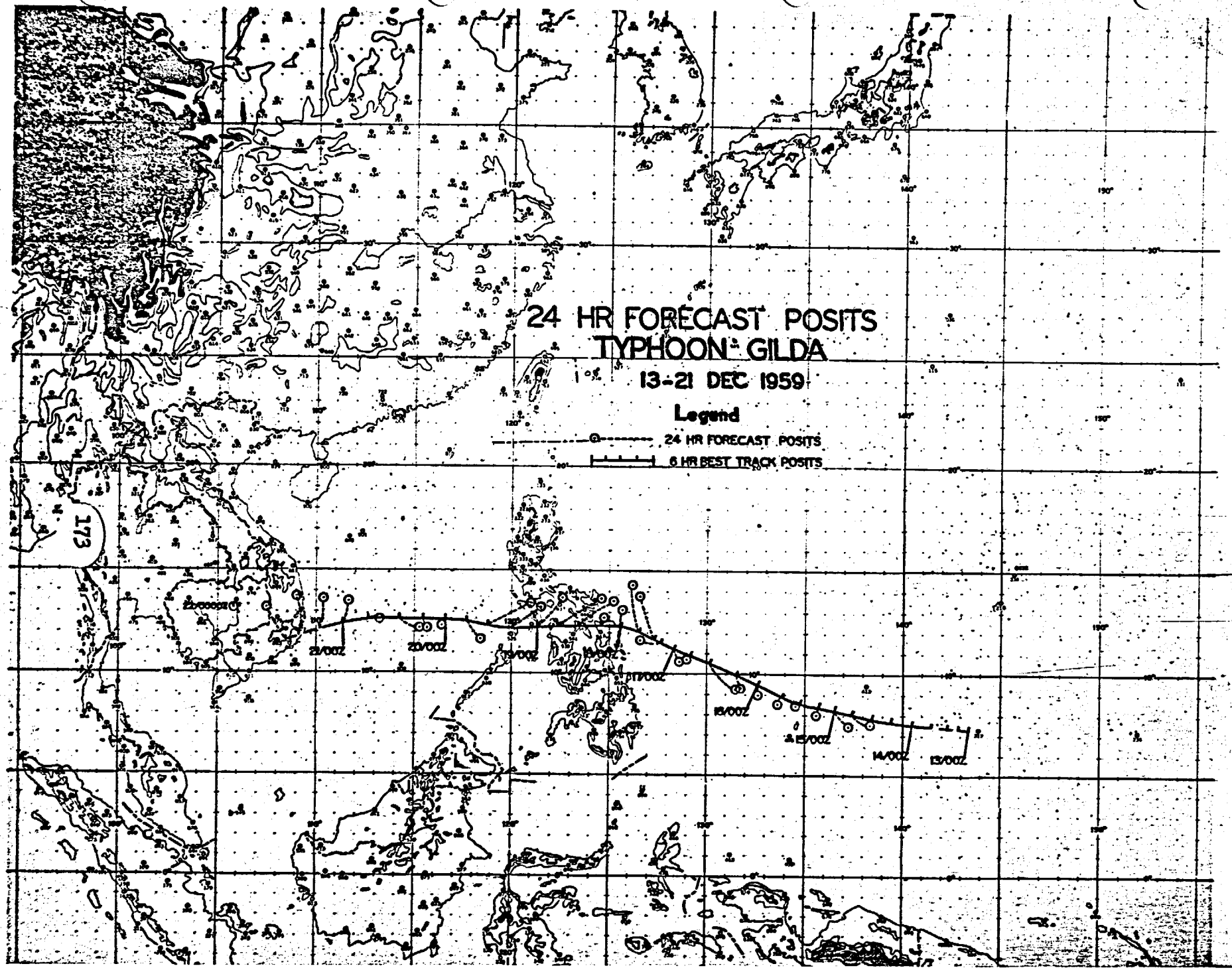
TYPHOON GILDA 13 - 21 DEC. 1959
POSITION AND FORECAST VERIFICATION DATA (CONT'D)

DTG	STORM POSITION LAT.	LONG.	12 HR ERROR DEG.	DISTANCE	24 HR ERROR DEG.	DISTANCE
210000Z	12.4N	111.4E	010	60	010	70
210600Z	12.1N	110.1E	354	43	004	64
211200Z	11.8N	109.1E	338	72	357	124
211800Z	11.6N	108.5E	- - - -		325	108

AVERAGE 12 HOUR ERROR 35.1 NM
AVERAGE 24 HOUR ERROR 74.0 NM


BEST TRACK
TYPHOON GILDA
13-21 DEC 1959
Legend
6 HR BEST TRACK POSITS
AIRCRAFT FIX
SPEED
INTENSITY
KTS
INTENSITY ≥ 64 KTS
INTENSITY < 64 KTS
171


12 HR FORECAST POSITS
TYPHOON GILDA
13-21 DEC 1959
Legend
12 HR FORECAST POSITS
6 HR BEST TRACK POSITS
172
21/00Z
20/00Z
19/00Z
18/00Z
17/00Z
16/00Z
15/00Z
14/00Z
13/00Z


24 HR FORECAST POSITS
TYPHOON GILDA
13-21 DEC 1959
Legend
24 HR FORECAST POSITS
6 HR BEST TRACK POSITS
173
21/00Z
20/00Z
19/00Z
18/00Z
17/00Z
16/00Z
15/00Z
14/00Z
13/00Z