N. TYPHOON DINAH (14-21 OCTOBER 1959)

As previously mentioned in Section IV, forecasters of the JTWC have found the Stidd Diagram a valuable tool in first detecting tropical cyclones. The Stidd Diagram, included as page 30, shows the initial stages of development of Typhoon DINAH. DINAH first became a suspect area on 13 October in light of the higher than normal surface winds and multiple layers of clouds at Eniwetok, and the large 24-hour pressure falls at Ponape. As is evident from the Stidd Diagram, DINAH passed north of Ponape at approximately 1800Z on the 14th. Because of previous reconnaissance commitments on Typhoon CHARLOTTE, the first reconnaissance fix on DINAH was not made until 142230Z. The fix positioned DINAH approximately 600 miles southeast of Guam, and surface winds of 50 knots near the center were observed. Subsequent fixes indicated that DINAH was steadily intensifying, and at 151800Z DINAH was upgraded to a typhoon.

DINAH continued to intensify, and the maximum surface winds near the center were 125 knots as she passed 120 miles to the south of Agana, Guam at 161000Z. At that time, although intense, DINAH was still small area-wise. It was therefore not surprising that the maximum gust recorded on Nimitz Hill (the site of FWC/JTWC) was 42 knots. For the next 36 hours after passing Guam, DINAH moved to the west-northwest while gradually decelerating. Early on the 18th, at 15N - 135E, DINAH turned sharply northward and, at an average speed of 10 knots, moved almost due north until reaching

26 degrees north latitude. DINAH's abrupt turn to the north began just as Typhoon CHARLOTTE, moving northeastward, passed approximately 900 miles due north of DINAH. Upon reaching 26 degrees north on the 20th, DINAH began moving northeastward and accelerating. She also began to weaken and take on extratropical characteristics and at 211800Z when DINAH was 250 miles southeast of Tokyo, the final tropical warning was issued.

DINAH was characterized by her small eye averaging 20-25 miles. Over all her track followed late October climatology quite well. In the area south of Tokyo, the upper air center moved to the north as indicated by the 210800Z and 211400Z fixes, while surface and ship reports indicated the surface center to be moving in a northeasterly direction. This upper air center was caused by a slow moving trough aloft. Twenty nine warnings were issued on DINAH covering a period of eight days.

Typhoon DINAH expended her fury over the open ocean and no known damage has been reported.

RECONNAISSANCE AIRCRAFT FIXES - TYPHOON DINAH

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	142230Z	09.7N	154.3E	54-P-10	997	50	10080	40	10	08	CIRC DIA 15 MI
2	150200Z	09.8N	153.7E	54-P-10	1000	60	10030	50	09	07	EYE DIFFUSE
3	150730Z	10.0N	152.5E	54-P-10	993	65	9920	50	11	09	CIRC DIA 30 MI
4	151620Z	10.1N	150.1E	54-R-8	- -	- -	- -	- -	- -	- -	CIRC DIA 40 MI
5	152000Z	10.2N	149.0E	54-P-8	981	95	9580	70	14	11	CIRC DIA 22 MI
6	160200Z	10.8N	146.9E	54-P-5	985	150	9480	75	13	07	CIRC DIA 15 MI
7	160645Z	11.0N	145.5E	54-P-2	- -	100	9180	85	13	12	CIRC DIA 15 MI
8	160800Z	11.1N	145.1E	54-P-2	958	150	9140	100	15	12	CIRC DIA 08 MI
9	161410Z	12.2N	142.7E	54-R-10	- -	- -	- -	120	- -	- -	CIRC DIA 10 MI
10	162100Z	12.7N	140.9E	54-P-5	947	150	8480	- -	15	11	CIRC DIA 08 MI
11	170200Z	13.1N	140.0E	54-T-15	- -	- -	- -	- -	- -	- -	———————
12	170800Z	13.4N	138.3E	54-P-5	938	180	8430	105	21	13	CIRC DIA 30 MI
13	171400Z	13.8N	136.7E	54-R-5	- -	- -	- -	90	- -	- -	CIRC DIA 30 MI
14	172340Z	14.6N	135.6E	54-P-5	947	150	8560	90	18	13	CIRC DIA 20 MI
15	180200Z	14.9N	135.4E	54-P-5	947	150	8580	90	19	14	CIRC DIA 20 MI
16	180800Z	15.7N	135.1E	54-P-2	944	185	8540	110	20	10	CIRC DIA 30 MI
17	181400Z	16.3N	134.8E	54-R-5	- -	- -	- -	90	- -	- -	CIRC DIA 12 MI
18	182100Z	17.1N	134.6E	54-P-10	945	125	8480	95	20	15	CIRC DIA 20 MI

RECONNAISSANCE AIRCRAFT FIXES - TYPHOON DINAH (CONT'D)

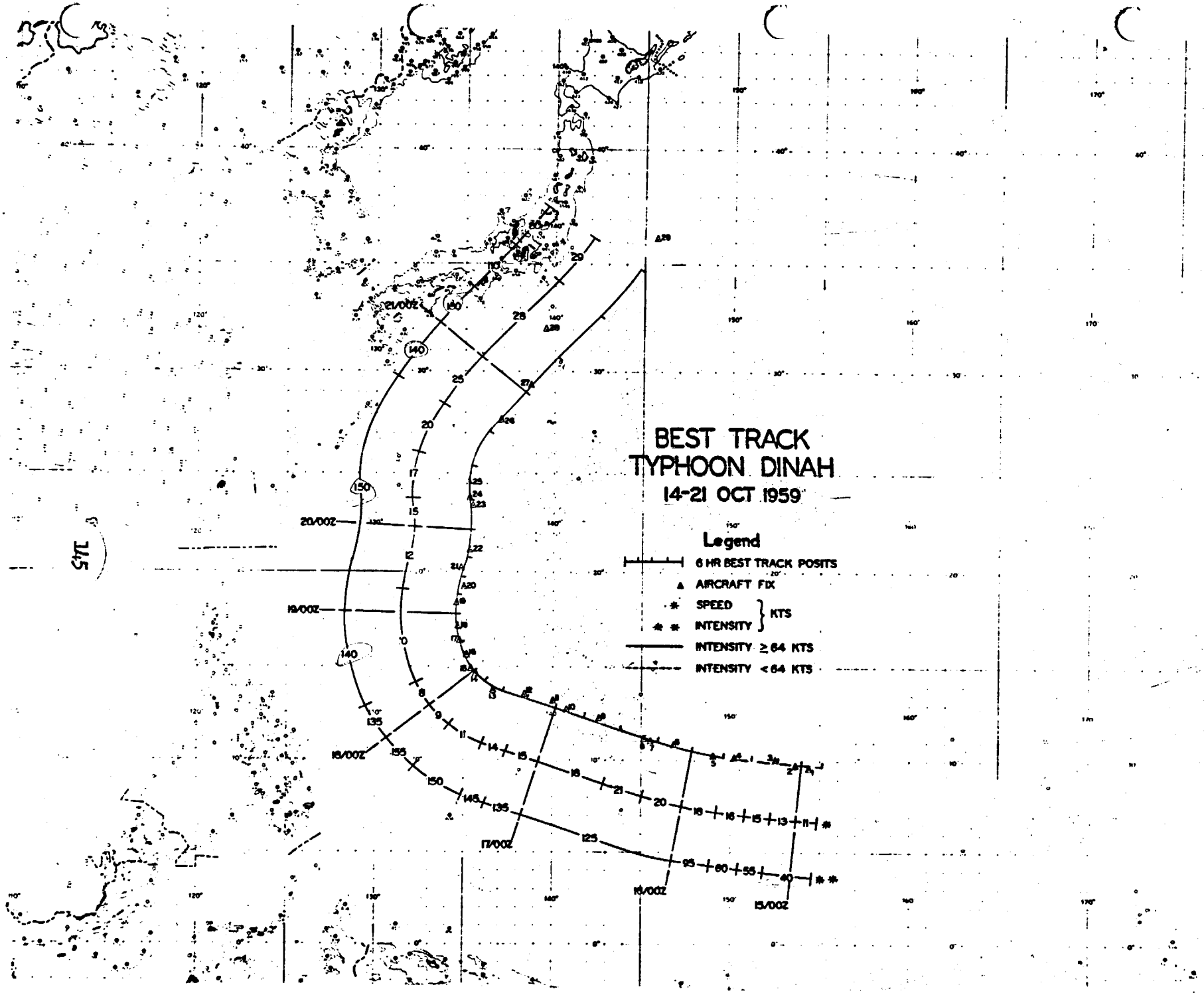
FIX NO.	TIME	LAT.	LONG.	*UNIT METHOD & ACCY	MIN SLP MBS	MAX SFC WND	MIN 700MB HGT	MAX FLT LVL WND	700MB TEMP (°C)	700MB DEWPT (°C)	EYE CHARACTERISTICS
19	190200Z	18.4N	134.6E	54-P-20	945	200	8660	- -	17	17	CIRC DIA 30 MI
20	190800Z	19.1N	135.0E	54-P-3	942	80	8350	- -	17	13	CIRC DIA 30 MI
21	191400Z	20.1N	134.9E	54-T—	- -	- -	- -	- -	- -	- -	CIRC DIA 25 MI
22	192030Z	21.1N	135.2E	54-P-2	918	- -	7710	125	18	13	CIRC DIA 30 MI
23	200400Z	23.3N	135.3E	54-P-10	913	- -	7600	130	18	13	CIRC DIA 25 MI
24	200800Z	23.8N	135.2E	54-P-1	914	- -	7660	140	18	14	EYE ELLIP DIA 20 MI
25	201230Z	24.5N	135.1E	54-R-1	- -	- -	- -	- -	- -	- -	EYE CIRCULAR
26	202115Z	27.8N	137.0E	54-P-10	934	175	8160	- -	19	15	EYE ELLIP 20X40 MI
27	210200Z	29.4N	138.6E	54-P-10	935	125	8440	- -	21	16	CIRC DIA 40 MI
28	210800Z	32.0N	139.5E	54-P-30	992	- -	9590	- -	10	10	EYE ILL DEFINED
29	212100Z	36.1N	145.8E	54-P-10	985	- -	9310	65	06	06	EYE ILL DEFINED

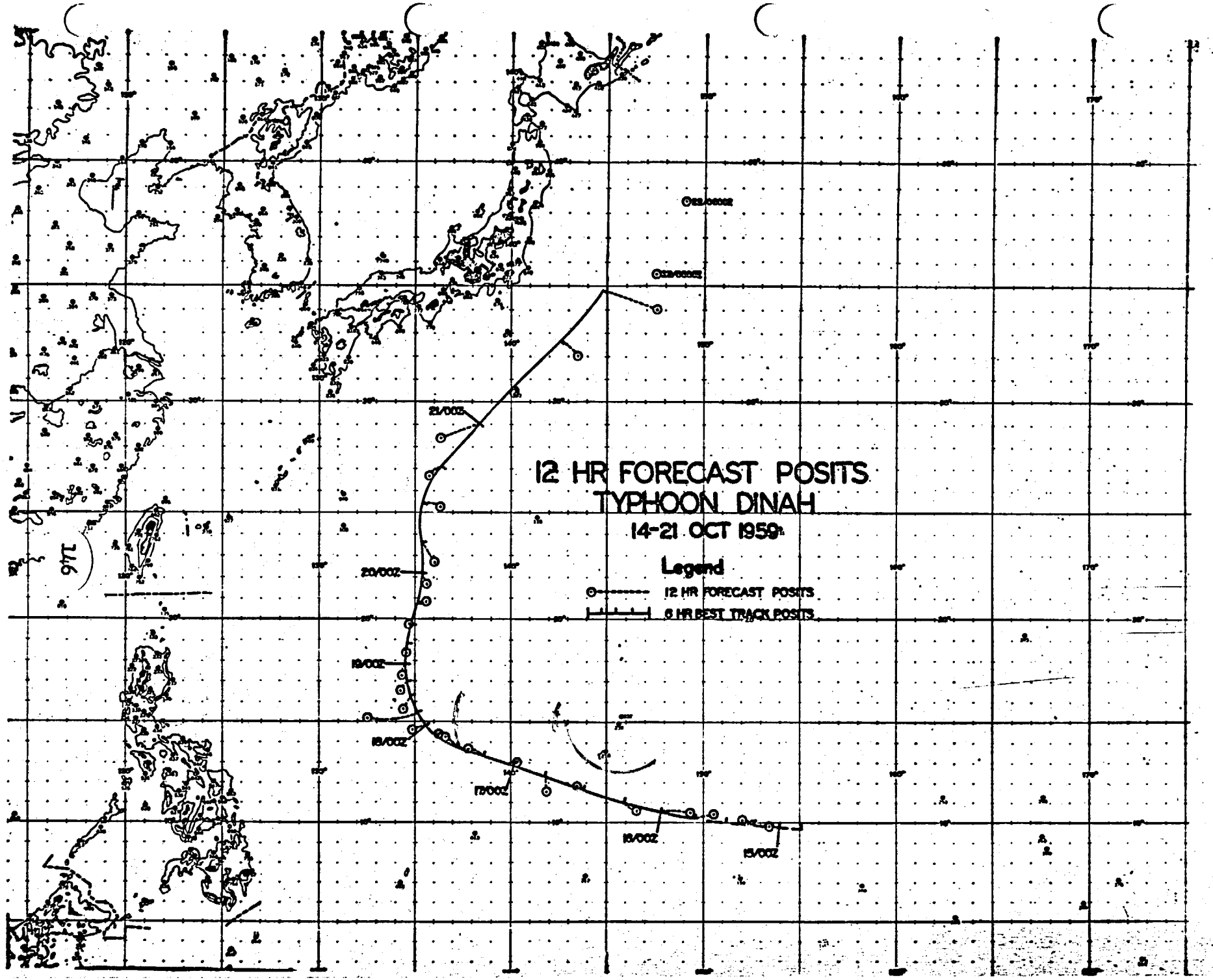
+ 57MB → in 64K?

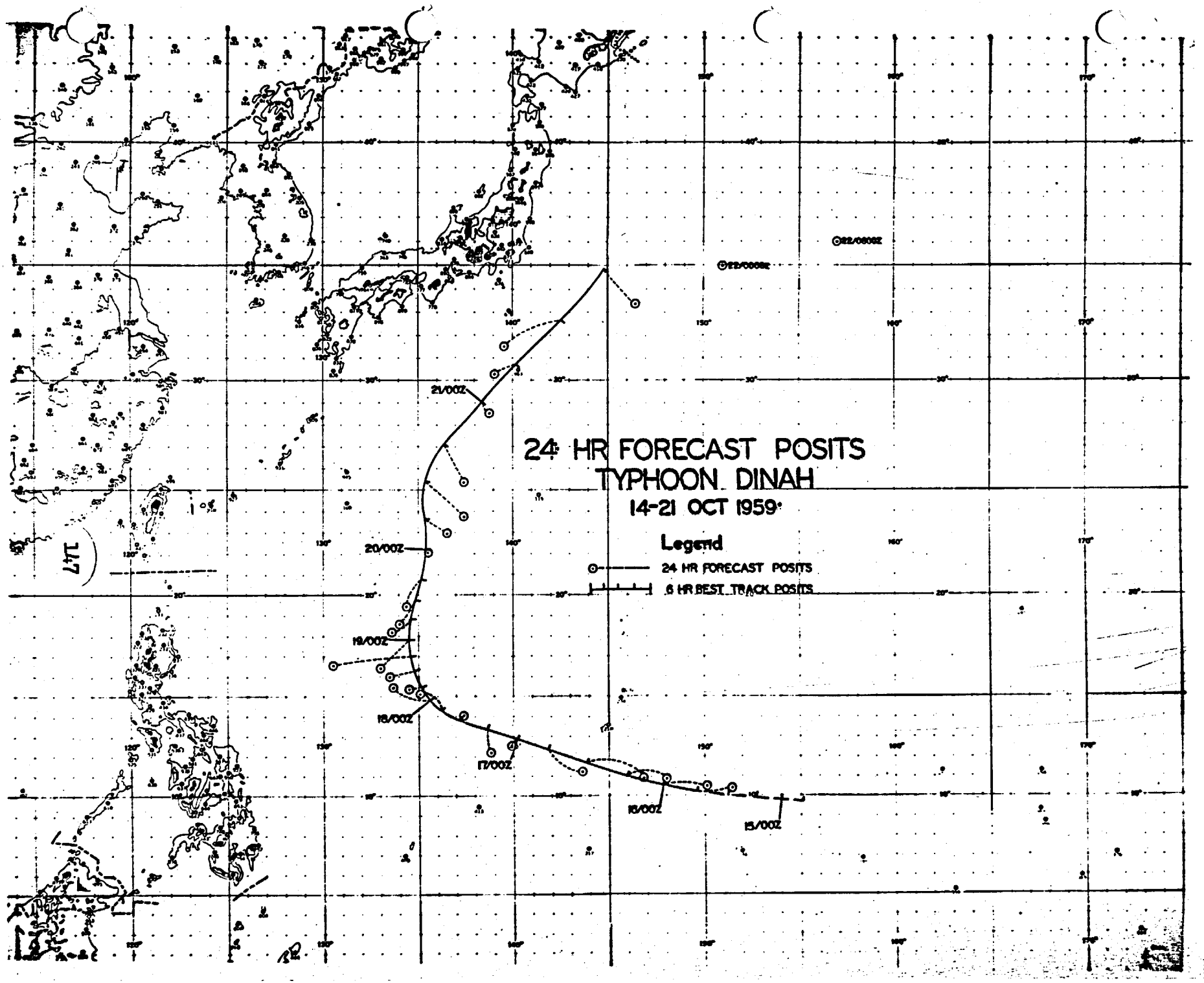
TYPHOON DINAH 14 - 21 OCT 1959
POSITION AND FORECAST VERIFICATION DATA

DTG	STORM POSITION LAT.	LONG.	12 HR ERROR DEG.	DISTANCE	24 HR ERROR DEG.	DISTANCE
141800Z	09.7N	155.1E	- - - -		- - - -	
150000Z	09.8N	154.0E	- - - -		- - - -	
150600Z	09.9N	152.7E	095	28	- - - -	
151200Z	10.0N	151.2E	080	45	- - - -	
151800Z	10.1N	149.6E	070	58	090	95
160000Z	10.5N	147.9E	085	80	090	127
160600Z	11.0N	145.9E	115	50	095	125
161200Z	11.7N	143.9E	285	33	115	174
161800Z	12.3N	141.8E	175	41	125	124
170000Z	12.8N	140.1E	030	10	260	12
170600Z	13.3N	138.6E	300	57	165	66
171200Z	13.7N	137.2E	300	59	180	19
171800Z	14.2N	136.2E	050	05	315	90
180000Z	14.7N	135.5E	270	36	270	102
180600Z	15.4N	135.1E	265	148	260	47
181200Z	16.2N	134.9E	220	51	265	94
181800Z	17.0N	134.8E	245	34	265	247
190000Z	17.8N	134.7E	220	41	230	128
190600Z	18.8N	134.8E	200	37	240	70
191200Z	19.8N	134.9E	270	13	220	83
191800Z	20.8N	135.1E	090	12	210	89
200000Z	22.1N	135.2E	120	31	085	19
200600Z	23.6N	135.2E	145	65	115	76
201200Z	25.3N	135.3E	100	48	130	131
201800Z	27.1N	136.3E	250	36	150	122
210000Z	29.0N	138.2E	250	113	125	50
210600Z	30.7N	140.1E	180	25	240	69
211200Z	32.7N	142.5E	130	63	065	162
211800Z	34.8N	144.8E	110	134	140	121

AVERAGE 12 HOUR ERROR 50.1 NM
AVERAGE 24 HOUR ERROR 97.7 NM


BEST TRACK
TYPHOON DINAH
14-21 OCT 1959
Legend
6 HR BEST TRACK POSITS
AIRCRAFT FIX
SPEED
INTENSITY
KTS
INTENSITY ≥ 64 KTS
INTENSITY < 64 KTS
20/00Z
19/00Z
18/00Z
17/00Z
16/00Z
15/00Z
21/00Z


12 HR FORECAST POSITS
TYPHOON DINAH
14-21 OCT 1959
Legend
12 HR FORECAST POSITS
6 HR BEST TRACK POSITS
21/00Z
20/00Z
19/00Z
18/00Z
17/00Z
16/00Z
15/00Z
146


24 HR FORECAST POSITS
TYPHOON DINAH
14-21 OCT 1959
Legend
24 HR FORECAST POSITS
6 HR BEST TRACK POSITS
22/0600Z
22/0000Z
21/00Z
20/00Z
19/00Z
18/00Z
17/00Z
16/00Z
15/00Z
147