TYPHOON BESS - 270600Z JULY to 110600Z AUG

I. DATA

A. Statistics

1. Calendar days of tropical warning - 15¼
2. Calendar days of typhoon intensity - 6½
3. Total distance traveled during tropical warning period - 2244 mi.

B. Characteristics as a typhoon

1. Minimum observed SLP - 930mb, 040430Z
2. Minimum observed 700mb height - 2475m, 040430Z
3. Max radius of SFC circulation - 350 mi
4. Max surface winds - 130 kts

II. DEVELOPMENT

A. Initial impetus - Development of outdraft at 200mb over surface vortex.

B. Initial surface vortex

1. Junction vortex at 240600Z
2. Surface pressure less than 1006mb

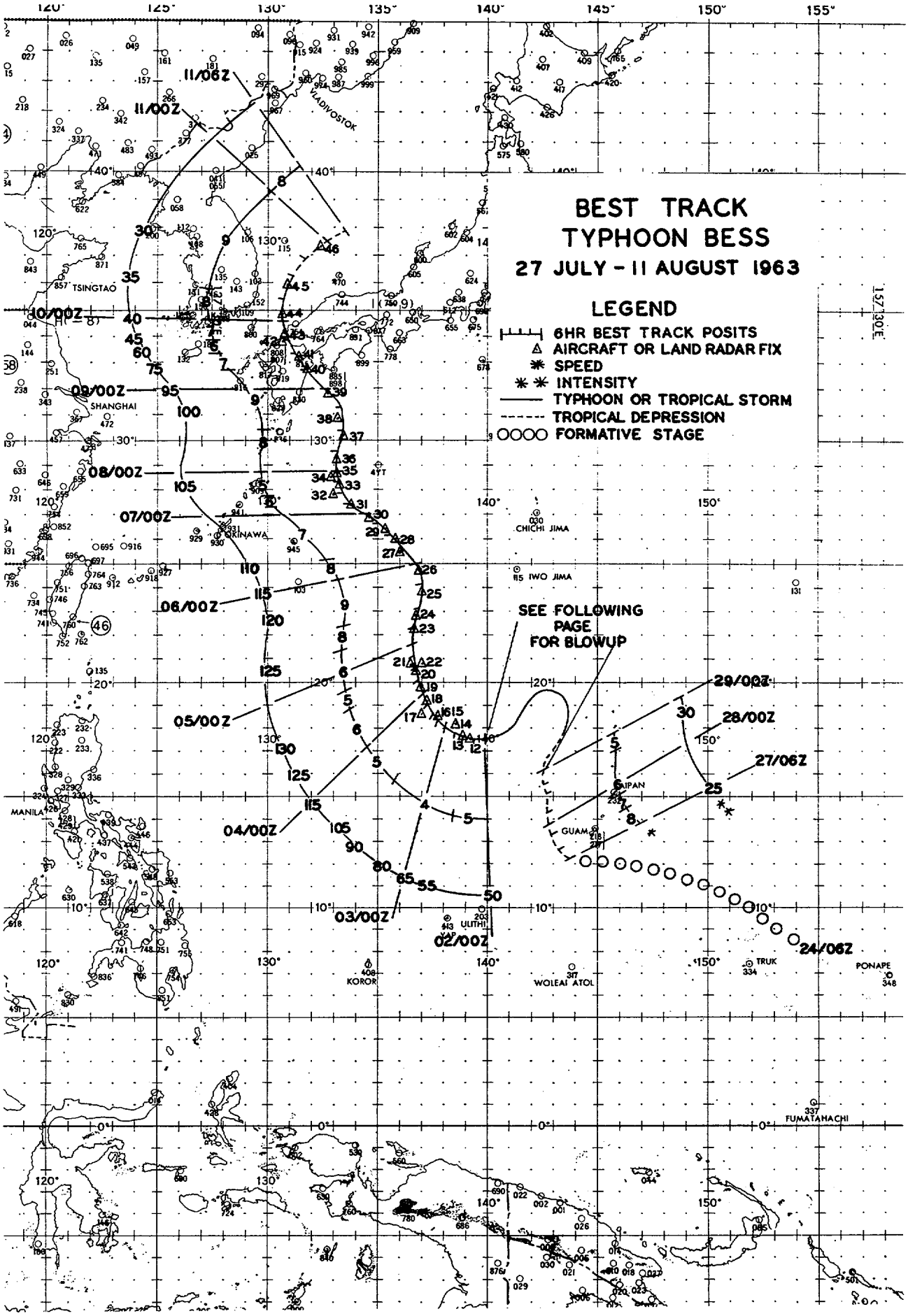
C. Zenith flow at 200mb

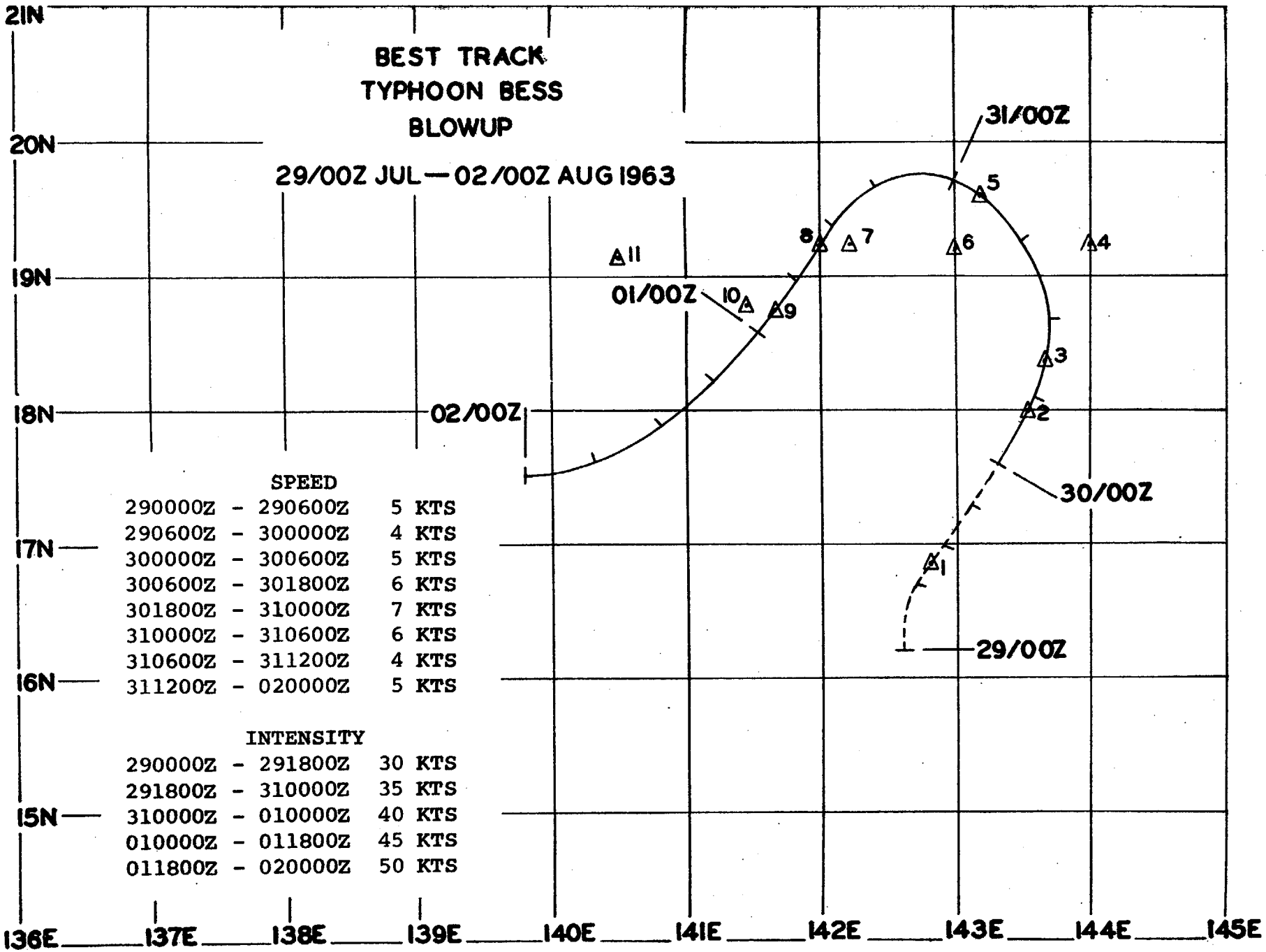
1. Relative position surface vortex - SE quadrant of anticyclone.
2. Wind direction over vortex - NE

III. Final Disposition

A. Extratropical

IV. REMARKS - An all-time record was established on this storm for most warnings issued.


BEST TRACK
TYPHOON BESS
27 JULY - 11 AUGUST 1963
LEGEND
6HR BEST TRACK POSITS
AIRCRAFT OR LAND RADAR FIX
SPEED
INTENSITY
TYPHOON OR TROPICAL STORM
TROPICAL DEPRESSION
FORMATIVE STAGE
SEE FOLLOWING PAGE FOR BLOWUP
11/06Z
11/00Z
10/00Z
09/00Z
08/00Z
07/00Z
06/00Z
05/00Z
04/00Z
03/00Z
02/00Z
29/00Z
28/00Z
27/06Z
24/06Z
VLADIVOSTOK
TSINGTAO
SHANGHAI
OKINAWA
CHICHI JIMA
IWO JIMA
SAIPAN
GUAM
MANILA
KOROR
ULITHI
WOLEAI ATOL
TRUK
PONAPE
FUMATAHACHI
137°30'E


BEST TRACK
TYPHOON BESS
BLOWUP
29/00Z JUL — 02/00Z AUG 1963
21N
20N
19N
18N
17N
16N
15N
136E
137E
138E
139E
140E
141E
142E
143E
144E
145E
31/00Z
01/00Z
02/00Z
30/00Z
29/00Z
1
2
3
4
5
6
7
8
9
10
11
SPEED
290000Z - 290600Z 5 KTS
290600Z - 300000Z 4 KTS
300000Z - 300600Z 5 KTS
300600Z - 301800Z 6 KTS
301800Z - 310000Z 7 KTS
310000Z - 310600Z 6 KTS
310600Z - 311200Z 4 KTS
311200Z - 020000Z 5 KTS
INTENSITY
290000Z - 291800Z 30 KTS
291800Z - 310000Z 35 KTS
310000Z - 010000Z 40 KTS
010000Z - 011800Z 45 KTS
011800Z - 020000Z 50 KTS

LAND RADAR AND AIRCRAFT FIXES - TYPHOON BESS

FIX NO/TIME	LAT.	LONG.	UNIT METHOD & ACCY	MAX SFC WND	MAX 700MB WND	MIN 700MB HGT	RECON MIN SLP MBS	JTWC MIN SLP *MBS	700MB T/Td (°C)	EYE CHARACTERISTICS
1 292210Z	16.8N	142.8E	VW1-P-05	25	-	3120	1001	1005	15/-	CIRC 60 MI DIA,OPEN N SEMI
2 300420Z	18.0N	143.5E	VW1-P-10	25	-	-	999	-	- -	WEAK RDR PIC OF CNTR
3 300955Z	18.4N	143.7E	VW1-P-05	15	-	3094	-	1003	14/-	OVAL 68 MI NE/SW,46 MI NW/SE, SEVERAL WEAK FEEDER BNDS
4 301900Z	19.3N	144.0E	VW1-R-20	-	-	3121	-	-	- -	CNTR HOURGLASS SHAPE & WEAK, 200 MI N/S,110 MI E/W
5 302200Z	19.6N	143.2E	54-P-04	30	-	3134	1004	1007	12/09	CIRC 50 MI DIA, VERY DISORG.
6 310040Z	19.3N	143.0E	54-P-04	30	30	3143	1008	1008	13/08	CIRC 40 MI DIA,ILL DEF, GEOG & PRESSURE CNTR SAME
7 310411Z	19.3N	142.2E	54-P-05	30	30	3149	1007	1008	13/07	CIRC 40 MI DIA,WALL CLDS S QD
8 310900Z	19.3N	142.0E	VW1-P-05	30	-	-	999	-	- -	CNTR NOT DISCERNIBLE
9 312200Z	18.7N	141.6E	54-P-03	25	-	-	1002	-	- -	CIRC 30 MI DIA, DISORGANIZED
10 010410Z	18.8N	141.4E	54-P-03	45	30	3039	1010	997	13/13	CIRC 10 MI DIA,OPEN W & SW
11 010945Z	19.3N	140.5E	VW1-P-03	40	-	-	998	-	- -	CIRC 13 MI DIA,WALL CLDS NE-SW,4 MI THICK
12 020345Z	17.6N	139.3E	54-P-04	35	40	3042	998	998	11/11	CIRC 30 MI DIA,WEAK WALL CLDS NW-E-SW
13 020930Z	17.6N	138.9E	VW1-P-02	45	-	-	986	-	- -	ELLIP 33 MI E/W,39 MI N/S, OPEN E
14 022200Z	18.2N	138.5E	54-P-03	40	40	2969	992	988	17/13	CIRC 40 MI DIA, CLOSED

*Computed

LAND RADAR AND AIRCRAFT FIXES - TYPHOON BESS (CONT'D)

FIX NO/TIME	LAT.	LONG.	UNIT METHOD & ACCY	MAX SFC WND	MAX 700MB WND	MIN 700MB HGT	RECON MIN SLP MBS	JTWC MIN SLP *MBS	700MB T/Td (°C)	EYE CHARACTERISTICS
15 030320Z	18.5N	137.7E	VW1-P-05	65	-	3000	975	-	14/09	CIRC 25 MI DIA,OPEN NE QUAD, WALL CLDS 5 MI THICK
16 031000Z	18.5N	137.7E	VW1-R-03	-	-	-	-	-	- -	CIRC 25 MI DIA,CLSD WALL CLDS 8 MI THICK
17 031600Z	18.6N	137.0E	VW1-R-03	-	-	-	-	-	- -	CONCENTRIC INNER EYE ELLIP 23 MI N/S,20 MI E/W, OUTER EYE CIRC 70 MI DIA
18 032200Z	19.2N	137.3E	56-P-04	90	90	2600	932	944	18/11	CIRC 17 MI DIA CLOSED
19 040430Z	19.8N	137.0E	54-P-03	65	100	2475	922	930	21/14	CIRC 20 MI DIA,SLOPES NW,OPEN S,GEOG CNTR 10 MI N OF PRESSURE CNTR
20 041000Z	20.5N	136.8E	VW1-R-01	-	-	-	-	-	- -	CONCENTRIC,INNER EYE CIRC 11 MI DIA,OUTER EYE CIRC 42 MI DIA,WALL CLDS 7 MI THICK
21 041530Z	20.8N	136.6E	VW1-R-05	-	-	-	-	-	- -	CONCENTRIC,INNER EYE 17 MI DIA,WALL CLDS 3 MI THICK & WEAKENING,OUTER EYE 38 MI DIA,WALL CLDS 9 MI THICK
22 042215Z	20.9N	137.0E	56-P-10	100	90	2502	940	937	16/10	WALL CLDS IN E QUAD
23 050400Z	22.3N	136.8E	56-P-03	75	85	2560	940	943	14/14	ELLIP 40 MI N/S,20 MI E/W, WALL CLDS E SEMI, GEOG CNTR 15 MI S OF PRESSURE CNTR

*Computed

LAND RADAR AND AIRCRAFT FIXES - TYPHOON BESS (CONT'D)

FIX NO/TIME	LAT.	LONG.	UNIT METHOD & ACCY	MAX SFC WND	MAX 700MB WND	MIN 700MB HGT	RECON MIN SLP MBS	JTWC MIN SLP *MBS	700MB T/Td (°C)	EYE CHARACTERISTICS
24 050930Z	22.8N	136.8E	VW1-R-05	-	-	-	-	-	- -	CIRC 55 MI DIA,OPEN W
25 051530Z	23.7N	137.0E	VW1-R-03	-	-	-	-	-	- -	WALL CLDS 10 MI THICK,OPEN E
26 052157Z	24.7N	136.8E	56-P-01	80	90	2694	947	936	15/15	OPEN SW & NE
27 060400Z	25.5N	136.0E	54-P-02	75	75	2682	952	953	18/18	ELLIP 50 MI ENE/WSW,30 MI NNW/SSE,EYE FILLING RAPIDLY
28 061000Z	26.0N	135.8E	VW1-R-05	-	-	-	-	-	- -	CONCENTRIC,INNER EYE CIRC 15 MI DIA,OPEN SW SEMI,OUTER EYE CIRC 70 MI DIA
29 061530Z	26.4N	135.3E	VW1-R-03	-	-	-	-	-	- -	CONCENTRIC,INNER EYE CIRC 9 MI DIA,WALL CLDS 3 MI THICK, OUTER EYE CIRC 77 MI DIA,WALL CLDS 10 MI THICK
30 062200Z	26.9N	134.4E	56-P-03	105	75	2679	955	956	15/13	---
31 070400Z	27.3N	133.9E	56-P-03	75	65	2655	948	953	16/13	CIRC 60 MI DIA,OPEN W
32 071145Z	27.8N	133.0E	VW1-R-05	-	-	-	-	-	- -	ELLIP 56 MI N/S,50 MI E/W, CLSD WALL CLDS 11 MI THICK
33 071545Z	28.1N	133.2E	VW1-R-03	-	-	-	-	-	10/06	ELLIP 36 MI N/S,31 MI E/W, OPEN SW, WALL CLDS 9 MI THICK
34 072130Z	28.5N	132.9E	SHIP-R-U	-	-	-	-	-	- -	---
35 072202Z	28.7N	133.2E	56-P-02	-	70	2704	957	958	16/13	CIRC 50 MI DIA,OPEN NW,GEOG EYE 15 MI N OF PRESSURE EYE

*Computed

LAND RADAR AND AIRCRAFT FIXES - TYPHOON BESS (CONT'D)

FIX NO/TIME	LAT.	LONG.	UNIT METHOD & ACCY	MAX SFC WND	MAX 700MB WND	MIN 700MB HGT	RECON MIN SLP MBS	JTWC MIN SLP *MBS	700MB T/Td (°C)	EYE CHARACTERISTICS
36 080400Z	29.3N	133.1E	56-P-02	-	75	2743	969	962	15/13	CIRC 45 MI DIA,OPEN W & NW
37 081010Z	30.2N	133.4E	VW1-R-05	-	-	-	-	-	- -	CIRC 50 MI DIA,OPEN SW SEMI
38 081530Z	30.7N	133.1E	VW1-R-03	-	-	-	-	-	- -	CIRC 35 MI DIA,WALL CLDS SE
39 082200Z	31.8N	132.6E	56-P-01	50	80	2780	964	966	15/15	CIRC 70 MI DIA,OPEN W
40 090355Z	32.6N	131.9E	56-P-05	60	-	-	-	-	- -	ELLIP
41 091030Z	33.3N	131.4E	VW1-P-03	-	-	2920	-	984	12/10	CIRC 55 MI DIA,WALL CLDS E SEMI
42 091533Z	33.9N	130.8E	VW1-R-20	-	-	-	-	-	- -	CIRC 36 MI DIA,CNTR VERY DIF
43 092215Z	34.2N	130.8E	56-P-01	-	57	2984	990	993	10/10	ELLIP
44 100400Z	34.9N	130.6E	56-P-01	-	40	2990	996	994	10/09	ELLIP OPEN E,WALL CLDS 5 MI THICK
45 101000Z	36.0N	130.9E	VW1-P-15	-	25	2996	-	995	- -	CNTR VERY DIFFUSED
46 102200Z	37.3N	132.3E	56-P-10	30	30	3008	994	996	12/11	EYE NOT DISCERNIBLE

*Computed

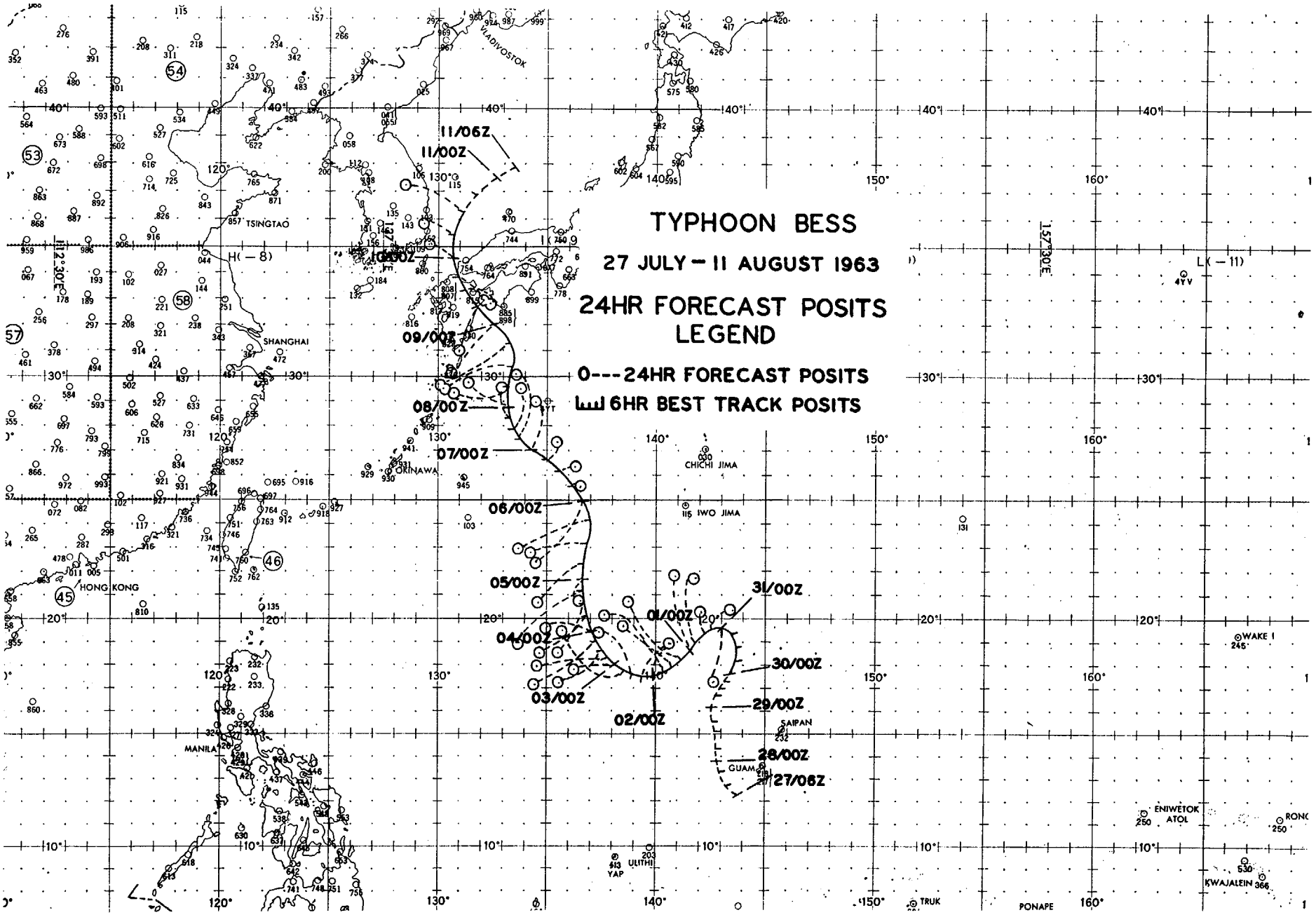
TYPHOON BESS 27 JUL-11 AUG
POSITION AND FORECAST VERIFICATION DATA

DTG	STORM POSITION LAT.	LONG.	24 HOUR ERROR DEG. DISTANCE	48 HOUR ERROR DEG. DISTANCE
270600Z	12.2N	143.8E	------	------
271200Z	12.6N	143.1E	------	------
271800Z	13.2N	142.8E	------	------
280000Z	13.8N	142.7E	------	------
280600Z	14.4N	142.7E	------	------
281200Z	15.1N	142.7E	------	------
281800Z	15.6N	142.5E	------	------
290000Z	16.2N	142.6E	------	------
290600Z	16.7N	142.7E	------	------
291200Z	17.0N	142.9E	------	------
291800Z	17.3N	143.1E	------	------
300000Z	17.6N	143.3E	------	------
300600Z	18.1N	143.6E	------	------
301200Z	18.7N	143.7E	------	------
301800Z	19.3N	143.5E	------	------
310000Z	19.7N	143.0E	194-148	------
310600Z	19.7N	142.4E	052-61	------
311200Z	19.4N	142.1E	356-53	------
311800Z	19.0N	141.8E	360-164	------
010000Z	18.6N	141.5E	154-197	345-47
010600Z	18.2N	141.2E	317-202	314-237
011200Z	17.9N	140.8E	312-173	318-249
011800Z	17.6N	140.3E	315-215	335-326
020000Z	17.5N	139.8E	028-104	325-375
020600Z	17.5N	139.3E	040-107	317-372
021200Z	17.6N	138.8E	323-138	312-300
021800Z	17.8N	138.4E	304-190	310-340
030000Z	18.1N	138.1E	301-205	346-119
030600Z	18.3N	137.8E	265-237	333-79
031200Z	18.7N	137.6E	232-134	289-262
031800Z	19.1N	137.4E	234-205	283-383

TYPHOON BESS 27 JUL-11 AUG
POSITION AND FORECAST VERIFICATION DATA (CONT'D)

DTG	STORM POSITION LAT.	LONG.	24 HOUR ERROR DEG. DISTANCE	48 HOUR ERROR DEG. DISTANCE
040000Z	19.5N	137.1E	209-113	283-363
040600Z	20.1N	136.9E	234-160	253-428
041200Z	20.7N	136.8E	212-139	238-287
041800Z	21.2N	136.7E	231-221	243-428
050000Z	21.8N	136.7E	191-34	220-301
050600Z	22.4N	136.7E	230-153	238-406
051200Z	23.2N	136.9E	261-154	235-324
051800Z	24.1N	137.0E	250-188	234-482
060000Z	25.0N	136.6E	217-190	209-344
060600Z	25.6N	136.1E	115-14	229-405
061200Z	26.1N	135.5E	070-29	253-272
061800Z	26.6N	135.0E	034-47	249-260
070000Z	27.0N	134.4E	360-120	230-222
070600Z	27.4N	133.7E	349-167	019-113
071200Z	27.9N	133.4E	014-97	014-110
071800Z	28.4N	133.2E	353-78	358-137
080000Z	28.8N	133.1E	303-117	347-318
080600Z	29.6N	133.2E	264-129	333-382
081200Z	30.4N	133.4E	252-175	327-220
081800Z	31.3N	133.0E	239-181	319-207
090000Z	32.0N	132.4E	218-145	289-201
090600Z	32.8N	131.8E	202-113	252-265
091200Z	33.4N	131.4E	130-71	244-275
091800Z	33.9N	131.0E	138-75	237-272
100000Z	34.6N	130.6E	304-49	215-220
100600Z	35.4N	130.6E	293-77	220-230
101200Z	36.2N	131.1E	------	------
101800Z	36.9N	131.7E	------	------
110000Z	37.5N	132.6E	------	------
110600Z	37.9N	133.5E	------	------

AVERAGE 24 HOUR ERROR 135 MI
AVERAGE 48 HOUR ERROR 278 MI


TYPHOON BESS
27 JULY – 11 AUGUST 1963
24HR FORECAST POSITS
LEGEND
0---24HR FORECAST POSITS
6HR BEST TRACK POSITS
11/06Z
11/00Z
10/00Z
09/00Z
08/00Z
07/00Z
06/00Z
05/00Z
04/00Z
03/00Z
02/00Z
01/00Z
31/00Z
30/00Z
29/00Z
28/00Z
27/06Z
VLADIVOSTOK
TSINGTAO
SHANGHAI
ORINAWA
CHICHI JIMA
IWO JIMA
HONG KONG
MANILA
SAIPAN
GUAM
WAKE I
ENIWETOK ATOL
KWAJALEIN
ULITHI
YAP
TRUK
PONAPE
H(–8)
L(–11)
112°30'E
157°30'E