19790911H1_FDIR

RFC-1 WORK FORM (7-76)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
RESEARCH FACILITIES CENTER
MIAMI, FLORIDA

FLIGHT LOG

AIRCRAFT	N42RF
FLIGHT NO.	182-79
FLIGHT ID	790911H
DATE	SEP. 11, 79

TAKE OFF (City or airport)	LAND (City or airport)	ALTITUDE
MIA	MIA	

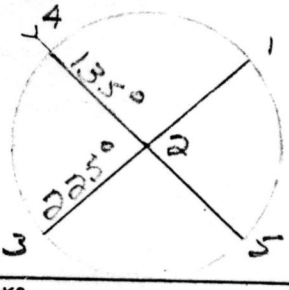
PURPOSE NHEML - RESEARCH - HURRICANE FREDERIC

PROPOSED TAKEOFF TIME:	1000Z	PROPOSED FLIGHT DURATION:	10 HRS
TIME IN:	2115Z	TIME ON:	2108Z
TIME OUT:	1000Z	TIME OFF:	1014Z
BLK. TIME:	11.15 HRS	FLIGHT TIME:	10.55 HRS

FLIGHT PERSONNEL

OPERATIONS CREW		SCIENTIFIC CREW		VISITORS	
WIERLEY		DAVIS		VALENTINE	BLACK
PENRY		FINDELL			MARTIN
ADAMS		SIMS			WIRFEL
ROSE		LAMBRECHT			FIORINO

PROPOSED MISSION



AT 1500' PT4 → 2 → 5 → 1 → 4 → 3 → 5 → 1
PT 1 → 2 → 3 → 2 → 4 → 2 → 5 → 2 → 1

ACTUAL MISSION AND REMARKS

AT 1500' PT4 → 2 (SYSTEM TAPE DUE TO TURBC, CIRCLED IN EYE FOR 1 HOUR FOR REPAIRS) THEN
PT4 → 1 → 4 → 2 → 5 → 1
PT 1 → 2 → 3 → 2 → 4 → 2 → 5 → 2 → 1
AT 1AR PT 1 → 2 → 3 AT THIS POINT PATTERN TERMINATED TO PROCEED TO SEARCH MISSION

DATA COLLECTED AND REMARKS

1 STD FLT LVL DATA TAPE; RADAR TAPE; CLD PHT TAPE
6 PENETRATIONS; 14 RECCOS WITH 5 FIXES;
HI WND 1500/100KTS; SLP 968 MB

NOAA FORM 59-4
(2-72)

4125
2182

89 62 NO 821

790911N

TIME	TK	LA		LO		RA	PA	TA	TD	WD	WS	CF			
1658	340	23	45	84	45	578	620	24	20	310	25	997			
1705	316	24	29	84	79	640	794	23	22	220	35	990			
			50	24	60					230	45				
1717		24	82	85	26	632	962	24	23	130	01	968			
				24°	42'	N 85°	18'	W							5
		MAX	WIND	EYE	WALL				230°/	90	KTS	140°/	85	NM	
		DIA		6	35				120/	80	KTS	030	75	NM	
1723	048	25	34	84	64	638	772	23	23	120	35	995			
1743		25	71	84	25	598	688	23	21	110	35	998			
1755	224	25	49	84	44	3105	3079	11	11	145	30	993			
				C	40	316									
1810		24	83	85	31	3125	3295	17	7	270	01	961	2830		
		MAX	WIND	150°	/100	KTS		060°	/35	NM					
				24°	50'	N 85°	19'	W							9
1806	344	24	85	85	60	3033	3171	16	10	340	27		2853		
1833	339	25	21	85	75	3116	3158	12	10	040	50				
210740		ON	MIA		PA	62									
2115															

NOAA FORM 59-4
(2-72)

790911H

TIME	TK	LA	LO	RA	PA	TT	TD	WD	WS			
1210												5
1306		24.34	84 91	582	884	25	23	300	10	972		
1308		24 41	84 86	571	882	25	23	145	4	972	971	5
1309		24 44	84 83	571	883	28	22	130	6	972		
								130	95KTS			
1320		24 89	84 33	602	748	23	22	125	42	992		
1325		25 07	84 11	588	697	23	23	108	38	996		
1330		25 26	83 88	593	683	23	22	115	32	998		
1337		25 37	84 17	587	682	24	21	105	32	998		
1345		25 41	84 85	569	678	24	20	075	33	996		
1350		25 28	85 26	585	707	23	22	065	38	995		
1355		25 09	85 66	559	680	23	22	040	34	994		
1400		24 71	85 22	569	696	23	22	020	35	994		
1407		24 16	85 82	575	692	24	21	340	24	995		
1410		23 95	85 73	585	696	24	21	320	23	996		
1415		23 67	85 55	595	695	24	20	305	19	997		
1420		23 53	85 12	596	698	23	22	260	21	997		
1428		23 42	84 80	603	696	24	23	245	20	998		
1431		23 55	84 37	602	696	24	22	225	22	998		
1435		23 66	84 10	577	662	24	22	200	21	998		
1441		24 08	83 89	570	666	24	22	175	26	998		
1446		24 40	83 74	574	663	23	22	150	31	997		
1450		24 75	83 87	567	670	22	23	130	36	996		
1455		25 64	84 04	568	678	23	[illegible]	120	39	996		
1500		25 05	84 17	561	682	23	23	125	40	994		
		DIA 40 OPEN SE										
1506		24 79	84 42	547	762	23	21	116	40	988		
1508		24 71	84 62					145	45			
1512		24 66	84 86	582	877	24	24	178	59	973		
1515		24 49	85 02	566	876	25	23	180	61	971		
			24°35'	85°01'								5
		MAX WND NE QUAD				170/100KTS				25NM		
1530		23 99	85 69	606	720	23	22	320	29	996		
		MAX WND SW QUAD				220/70KTS				25NM		
1548		24 63	85 16	575	885	26	23	270	62	972		5
1550-56				24°37'		85°10						
1555		24 91	85 44					035	48			
		MAX WND NW QUAD						040/95KTS		310°/25NM		
1605		25 36	86 00	612	715	23	22	050	32	997		
1610		25 55	86 20	594	681	22	21	055	32	998		
1615		25 38	86 02	565	676	23	21	055	33	996		
		DIA C30										
1620		25 16	85 79	562	702	23	21	345	43	992		
		95	.54					020	48			
		90	45					080	50			
1633		24 65	85 17	643	967	24	22	270	03	970		5
		24°38'N	85°10' W									
		MAX WND NW QUAD				030/95KTS				300°/30NM		

NOAA FORM 59-4
(2-72)

790911H

0,10 4,14
1 5,
3,13 6

TIME	TK	LA	LO	RA	PA	TA	TD	WD	WS	CT
1000	OUT MIA			ALT 1009.1						
1014										
1100		2576	8400	BGN DSCNT TO 1.5K						
1115		2603	8601	572	637	24	21	050	20	1001
1127		2592	8693	573	631	24	21	050	17	1002
1135	129	2565	8650	566	630	24	21	045	21	1001
1140	145	2541	8622	557	630	24	22	040	21	1000
1145	134	2517	8593	572	658	24	19	045	28	999
1150	130	2496	8565	594	697	23	21	040	31	996
1155	131	2475	8529	566	722	24	22	035	38	991
								36	88	
1201	123	SYS DN						30	90	

1970 2750 31 23
1210 2600 2780 -780 24

L 2427 8449 180 10

1960 2760 -800
2428.6 8452.5 105 18

1950 2760 -810
2428.5 8455.5 027 19
L 2432.9 8457.7 360 19

2000 2760

SP = 1013.25 (1 - PAS/44331) ** 5.25588

PAS = PA - AA TSA/TV

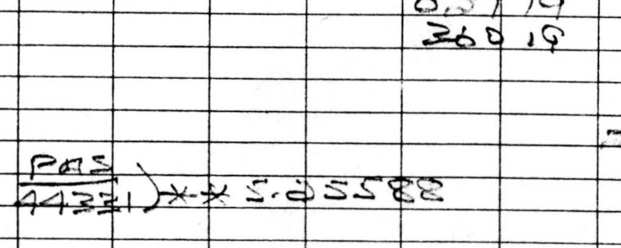
324
300
980

2766 - 1950
1846
914

24 25 59

2427 8448 1970 2770 165 20
2425.5 8454.8 300 0

1257 SYS UP



NOAA FORM 59-4
(2-72)

79091 1 H FREDERIC 1014-2107

TIME	LA	LO	ATIME	LA	LO
050100	23.75	084.33	25 740 322/3.7	24.42	084.90
121000	24.42	084.90	03 540 0/0.0	24.45	084.90
130900	24.45	084.90	12 240 310/2.9	24.63	085.17
163300	24.63	085.17	00 640 325/8.7	24.80	085.30
171700	24.80	085.30	03 180 328/1.2	24.83	085.32
181000	24.83	085.32	10 260 001/6.3	25.42	085.30
210100	25.42	085.30	08 940 284/5.6	25.55	085.78
231000	25.55	085.78			

* U.S. GOVERNMENT PRINTING OFFICE: 1973-768-073

TIME OF ENTRY	POSITION	TYPE	INERTIAL POSITION	LAT LON COR'S	POSITION	LAT LON COR'S	REMARKS
[illegible]9			24-23.3 85-55.0		24-22.2 85-54.5		
[illegible]50			23-43.6 8[illegible]-37.8		23-42.4 85-37.9		PH 1
[illegible]37			23-25.3 84-5[illegible]		23-23.6 84-52.5		PA
[illegible]53			23-40.2 84-06.2		23-37.9 84-06.9		PH 5
[illegible]52			24-24.8 83-44.8		24-22.1 83-45.0		
[illegible]49			25-08.0 84-05.1		25-05.4 84-04.6		PH 3
[illegible]59			24-37.7 85-00.7		24-36.0 84-59.3		9
[illegible]			[illegible]-53.6 85-46.7		[illegible] [illegible]		PH 1
[illegible]724			24-37.6 85-09.4		24-35.7 85-09.5		9
[illegible]240			25-33.0 86-11.8		25-30.2 86-11.6		PH 4
[illegible]328			24-38.9 85-10.4		24-36.8 85-09.0		9
16[illegible]55			23-57.0 84-24.9		23-55.8 84-23.7		PT5
1[illegible]41			24-49.2 85-15.6		24-47.9 85-15.0		9 PH2 24-[illegible] 85-18
17-342	MAN WAS 20[illegible]/22[illegible] 30 m NE [illegible]		25-44.0 84-14.2		25-41.5 84-13.1		PH 3 → 10000'
180041			25-15.6 84-45.9		25-14.1 84-44.0		340-1.726
181027			24-50.6 85-18.5		24-49.8 85-16.4		9 10000' 24-50 85-18
200936	26-11 85-03		25-57.2 85-04.3	+13.8 -1.3	25-56.4 85-02.6	+14.6 +.4	083½/173 Fmy VT
201712	26-11 84-28		25-58.6 84-30.0	+12.4 +2.0	25-57.6 84-28.4	+13.4 -.4	80½/142 Fmy VT
203331	26-03 83-00		25-54.4 83-04.3	+8.6 -4.3	25-53.9 83-02.2	+9.1 -2.2	062/69
210749	25-48.1 80-17.3		25-37.5 80-25.0	+10.6 -7.7	25-39.3 80-25.0	+8.8 -7.7	LAND KMIA
21 115	25-48.3 80-17.6		25-37.5 80-24.8		25-39.4 80-20.4		Block out

A/C COMMANDER	NAVIGATOR	A/C NO.	MISSION NO.	TIME AIRBORNE	LOCATION	DATE	PROJ. NAME
WEXLEY	ADAMS	NOAA 42 RF	790911	10 hr Z	KMIA 1125-48.3 W080-17.6	11 Sept 1979	"FRED" erick

TIME OF ENTRY	POSITION	TYPE	INERTIAL POSITION	LAT LON COR'S	POSITION	LAT LON COR'S	REMARKS
10 :35 GT	N25-48.3 W080-17.6	C / I	N25-48.4 W080-17.3	-.1 +.3	N25-48.3 W080-17.3	0 +.3	Block out
10	N25-48.1 W080-17.3	C / I	N25-47.9 W080-17.1	+.2 +.2	N25-47.6 W080-17.2	+.5 +.1	TOFF
10 00	25-51.3 82-18		25-49.0 82-16.8	+2.3 +1.2	25-48.4 82-16.9	+2.9 +1.1	86/99 114 MIA UT
110			26-01.1 85-29.8		26-00.8 85-29.8		~~Fmt~~ BT
111 51			26-01.9 86-06.6		26-01.2 86-06.7		BT
112 18			25-57.2 86-59.1		25-56.6 86-59.4		BT Turning to ϕ
12 15			24-26.3 84-51.9		24-23.7 84-52.2		ϕ 24.25 84-54
12			24-25.8 24-54.2		24-24.5 24-54.5		ϕ
130 0			24-25.1 84-51.9		24-24.1 84-52.9		ϕ
133 3			25-20.3 83-48.6		25-18.5 83-48.7		Pt #3
134 24			25-25.2 84-48.0		25-23.6 84-47.4		~~Pt #~~
135 49			25-05.9 85-39.2		25-04.7 85-38.4		Pt 4

SYS	BEGIN ALIGN TIME	NCS CONN	Ω AID	TIME OUT OF COARSE / ELAPSE ALIGN POST TIME	ALIGN STS 0-5	(1) TIME INTO NAV.	(2) TIME OUT NAV.	ΔT (2)(1)	TERMINAL ERRORS LAT	LONG	GS
INS 1	0933	✓	✓	—	5	0945	~~T 1040~~ 2112	11.5	+10.6	-7.7	5
INS 2 ~~or IMU~~	0933	✓	✓	—	5	0945	2112	11.5	+8.8	-7.7	4

ALIGN REMARKS: T: 1040 Performance Both INS > 200 Go to Undim - Both

OTHER REMARKS: INS remain coupled. T: 1640 Performance Both INS = 229 UNA ID

TYPE OF FIX : (1) DR (2) RADIO (3) CELESTIAL (4) VISUAL (5) LORAN
(6) RADAR (7) DOPPLER (8) OMEGA (9) INERTIAL
(10) OMEGA - INERTIAL

Appendix J

Operational Checklists

FORM J-1 On-board Lead Project Scientist Checklist

DATE 11 Sept '79 AIRCRAFT 42RF FLT 790911H

A. Participants Frederick

Function	Participant	Function	Participant
Lead Proj. Sci.	Black	Gust Probe	
Cloud Physics	Martin	Omega Sonde	
AXBT	Fiorino	Sys Eng	Mike Symes / Fennel
Hot Film	—	Data Tech	Ron Lambrecht
Radar	Wirfel	El Tech	
Flt DIR/MET	Davis	Other	

Wirle, Perri, Rose, Adams

Time Off 1014Z Location Time On Location

B. Past and Forecast Storm Position - Observed Positions

Date	Time	Lat	Lon
9/11	0501	23.7	84.3
—	—	—	—
—	—	—	—

Date	Time	Lat	Lon	MSLP
9/11	1210	24°5'	84°34'	979
—	—	—	—	—
—	—	—	—	—

C. Mission Briefing

Form J-1, Page 2

D. Equipment Status

Equipment	Pre Flt	In Flt	Post Flt	Reports Collected
Aircraft	✓	✓	✓	
Radar	✓	✓	✓	
Cloud Physics	✓	✓	✓	
Data Sys	✓	out 12-13Z	✓	
Omega Sondes				
AXBT	✓	IR SST out ✓	✓	
Gust Probe				
Hot Film				
Photography	side 1 every 5 sec nose 1 every 2 sec	✓	✓	

REMARKS

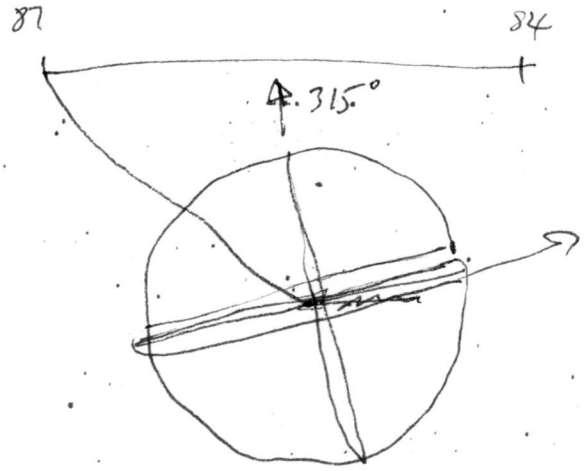
digital syst out 1200Z - 1305Z
loitered in the eye for 1 hour - great radar

no IR SST

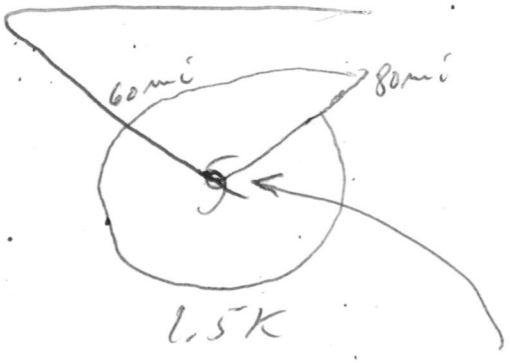
~~At vert camera~~

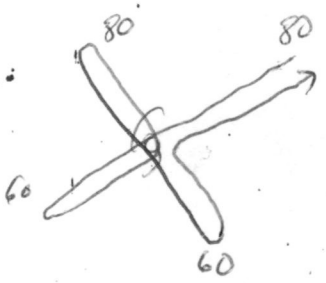
no vert. camera

E. Proposed Flight Patterns



F. Actual Flight Patterns



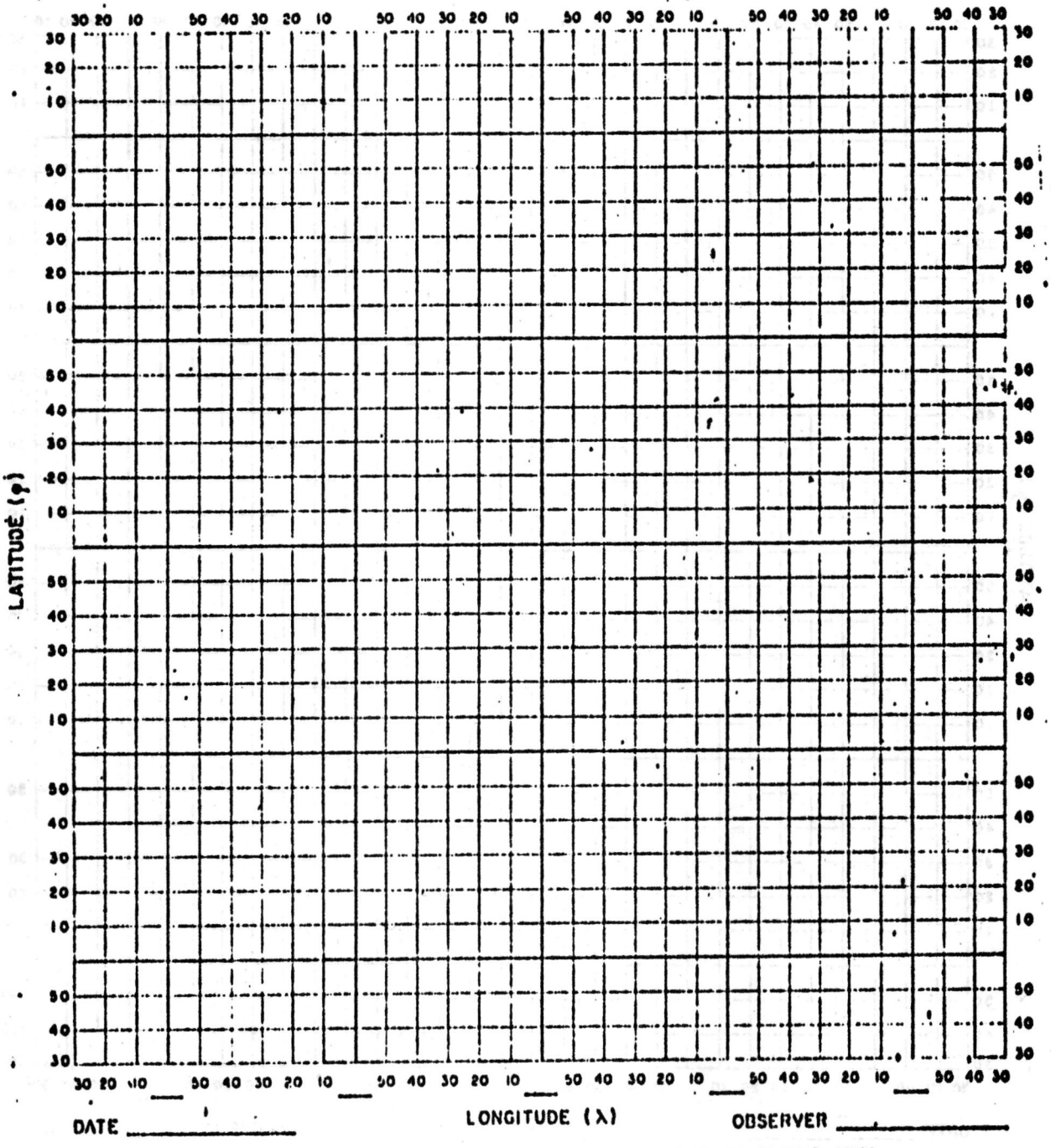


1300 - 1800 Z circled in eye first at 1.5K then at 8K ft

executed search pattern for ship at 500 ft for 45 min vicinity of 26 N, 86 W

HURRICANE RECCO PLOTTING CHART

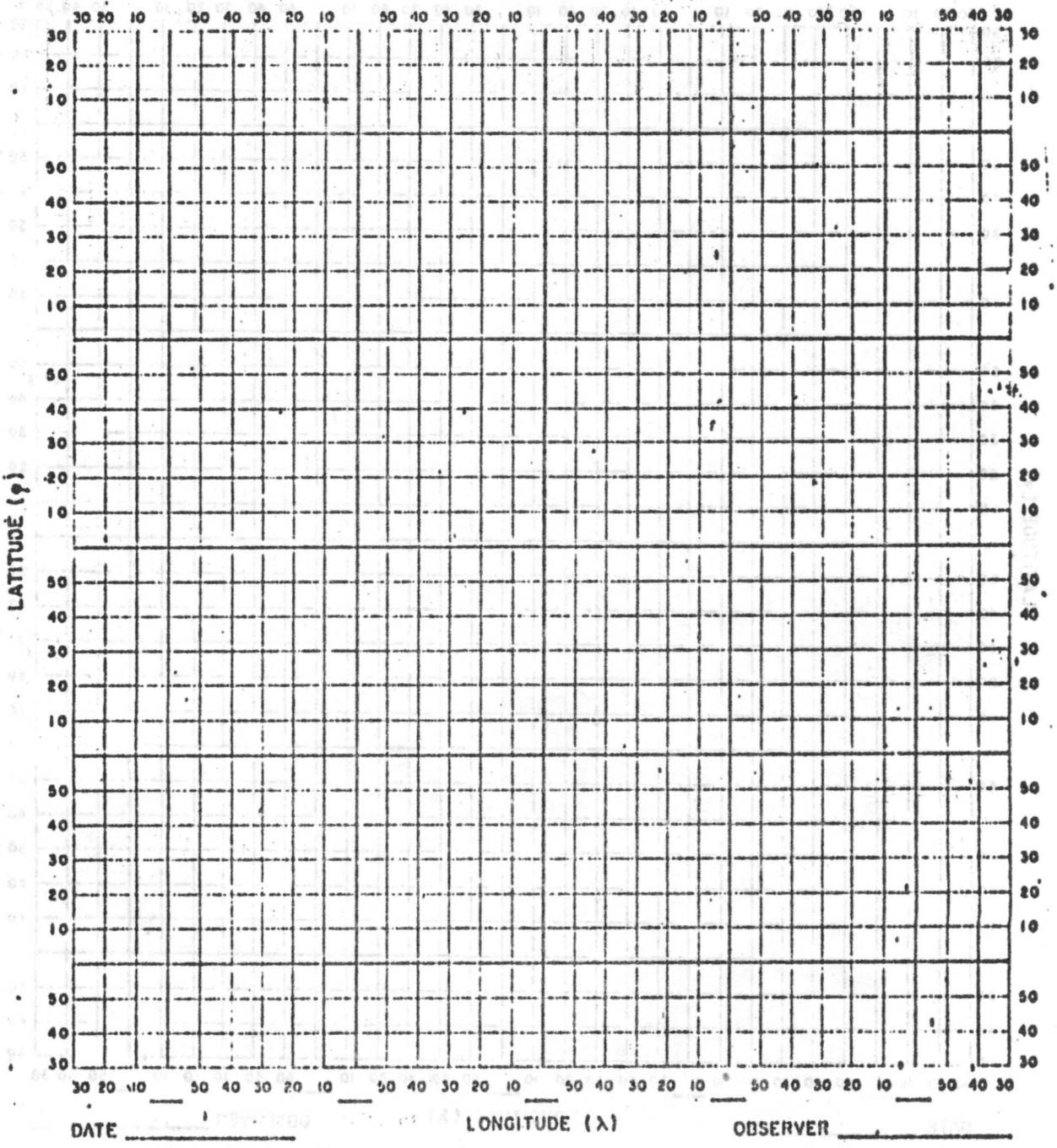
TRUE AT 25° LATITUDE, IN DEGREES AND MINUTES OF φ AND λ



NOTE: LABEL FULL DEGREES ACCORDING TO LOCATION OF FLIGHT AREA

HURRICANE RECCO PLOTTING CHART

TRUE AT 25° LATITUDE, IN DEGREES AND MINUTES OF φ AND λ



DATE _____ OBSERVER _____

NOTE: LABEL FULL DEGREES ACCORDING TO LOCATION OF FLIGHT AREA