

U.S. Dept. of Commerce / NOAA / Aircraft Operations Center

Flt ID: 010924I	From: KILM	To: KILM
Flt No: 01-056	Blk In: 0330Z	ATA: 0312Z
ETD: 1820Z	Blk Out: 1825Z	ATD: 1832Z
ETE: 0300Z	Blk Time: 9:05 9.1	Flt Time: 8:40 8.7
Sponsor Org: NOAA	Program: HRO/CAMEX	Purpose: HURR HUMBERTO COVES

AOC Personnel

AC: KENUL, P ✓	Sys Eng: LYNCH, T ✓
CP: TEBEST, R ✓	Data Sys:
Nav: ADLER, J ✓	Radar: BARR, J ✓
FE: WADE, S / FLOYD, D	GPS/BT: SMITH, J ✓
FD: CZYZK, S ✓	Cld Phys:
Avionics: SANS SOUNCI, D	

Participating Scientists / Visitors / AOC

Name (Last, First)	Activity on Aircraft	Affiliation
BLACK, M ✓	P.I.	HRO
BLACK, P ✓	SCIENTIST	"
DODGE, P ✓	"	"
GOLDENBERG, S ✓	"	"
BARNES, G ✓	"	"
WALSH, E ✓	SRA	NASA
McFADDEN, J ✓	RM	AOC

Proposed/Actual Mission Remarks (Recco, Fixes, Storm, PENET, NHOP #)

ETA 9 2115Z
 3 PENE'S
 DW3 PNB3

Flt ID: 010924I Time Off: 1832Z Time On: 0312Z

	Wx Station (Lake Off)	Wx Station (Lake Off)	Wx Station (Lake)	Wx Station (Lake)
Pressure	1010.3	29.89	1008.8	29.83

	Number	Data Disposition / Date / Quality
Flt Lvl Tapes		
Radar Tapes		
Cloud Physics Tapes		
Video Tapes		
AXBT	16	
AXCP		
AXCTD		
Dropsondes	29	2WHC - 4 CODE CORRELATING

	Forward	Left Side	Right Side	Down	Remarks
Time On					
Time Off					
Rate					

Remarks

Flight ID:

010924I

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U.S. Dept. of Commerce / NOAA / Aircraft Operations Center

Form 413-50

[illegible]

DATE		SCHEDULED RX TIME		AIRCRAFT NUMBER		ARWO	
WX MISSION IDENTIFICATION							OR
VORTEX DATA MESSAGE							
A	25/0032	Z	DATE AND TIME OF FIX				
	36 DEG 48 MIN N	S	LATITUDE OF VORTEX FIX				
B	64 DEG 17 MIN E	W	LONGITUDE OF VORTEX FIX				
C	850 MB	1363	M	MINIMUM HEIGHT AT STANDARD LEVEL			
D	NA		KT	ESTIMATE OF MAXIMUM SURFACE WIND OBSERVED			
E	NA	DEG	NM	BEARING AND RANGE FROM CENTER OF MAXIMUM SURFACE WIND			
F	138 DEG	79	KT	MAXIMUM FLIGHT LEVEL WIND NEAR CENTER			
G	52 DEG	20	NM	BEARING AND RANGE FROM CENTER OF MAXIMUM FLIGHT LEVEL WIND			
H	992		MB	MINIMUM SEA LEVEL PRESSURE COMPUTED FROM DROPSONDE OR EXTRAPOLATED FROM FLIGHT LEVEL. IF EXTRAPOLATED, CLARIFY IN REMARKS.			
I	15 CI	1801		M	MAXIMUM FLIGHT LEVEL TEMP/PRESSURE ALTITUDE OUTSIDE EYE		
J	20 CI	1905		M	MAXIMUM FLIGHT LEVEL TEMP/PRESSURE ALTITUDE INSIDE EYE		
K	14 CI	NA		C	DEWPOINT TEMP/SEA SURFACE TEMP INSIDE EYE		
L	NA	EYE CHARACTER: Closed wall, poorly defined, open SW, etc.					
M	NA	EYE SHAPE/ORIENTATION/DIAMETER. Code eye shape as: C - Circular; CO - Concentric; E - Elliptical. Transmit orientation of major axis in tens of degree, i.e., 01-010 to 190; 17-170 to 350. Transmit diameter in nautical miles. Examples: CB - Circular eye 8 miles in diameter. EO9/15/5 - Elliptical eye, major axis 090-270, length of major axis 15 NM, length of minor axis 5NM. COB-14 - Concentric eye, diameter inner eye 8 NM, outer eye 14 NM.					
N	12345 / 8	FIX DETERMINED BY/FIX LEVEL. FIX DETERMINED BY: 1 - Penetration; 2 - Radar; 3 - Wind; 4 - Pressure; 5 - Temperature. FIX LEVEL (Indicate surface center if visible; indicate both surface and flight level centers only when same): 0 - Surface; 1 - 1500ft; 9-925mb; 8 - 850 mb; 7 - 700 mb; 6 - 500 mb; 4 - 400 mb; 3 - 300 mb; 2 - 200 mb; NA - Other.					
O	112		NM	NAVIGATION FIX ACCURACY/METEOROLOGICAL ACCURACY			
P	REMARKS						
MAX FL WIND <u>79</u> KT <u>NE</u> QUAD <u>25/0025</u> Z SLP EXTRAP FROM (1500 FT/ 925 MB/ 850 MB/ <u>DROPSONDE</u>) SFC CNTR <u>1</u> NM FROM FL CNTR MAX FL TEMP <u>C</u> <u>1</u> NM FROM FL CNTR SPAN <u>70KT</u> <u>NE</u> QUAD <u>00257/20NM</u>							

INSTRUCTIONS: Items A through G (and H when extrapolated) are transmitted from the aircraft immediately following the fix. The remainder of the message is transmitted as soon as available for scheduled fixes and at the ARWO's discretion for unscheduled (intermediate) fixes.

COVES EXPERIMENT

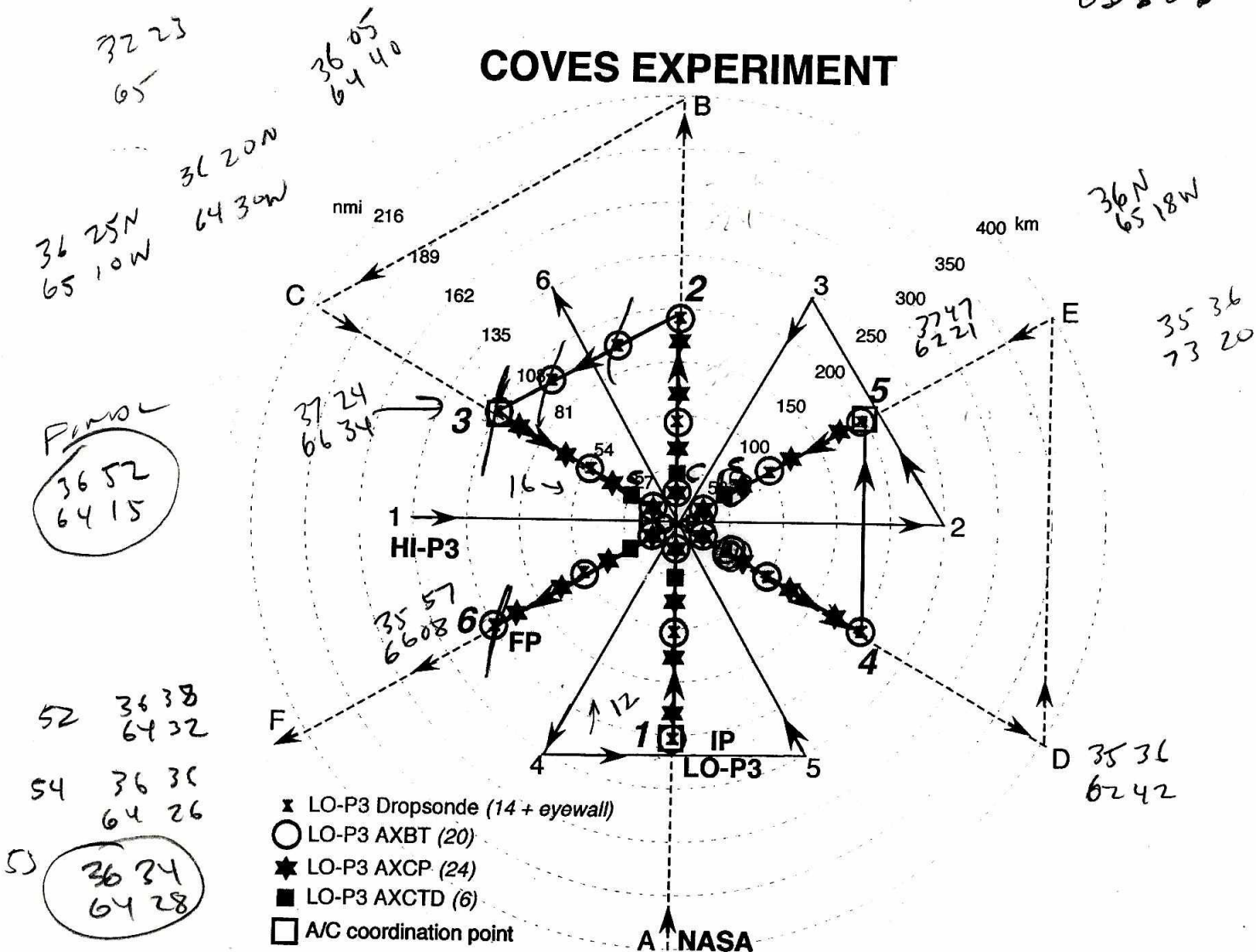


Fig. 3. Coordinated Short Pattern: (b) Lower WP-3D

- Note 1. All aircraft should reach their respective IP's as simultaneously as possible.
- Note 2. Aircraft should not deviate from pattern to find the center in the eye.
- Note 3. The pattern may be entered at any compass heading and the DC-8 and ER-2 entries should be along the same heading as the lower WP-3D.
- Note 4. The lower WP-3D aircraft should fly at 5,000-12,000 ft.
- Note 5. WP-3D Doppler radar should be operated in F/AST mode at a single PRF ≥ 2400 and 20° tilt.
- Note 6. Lower WP-3D sondes and AXBTs within the eyewall are launched at the discretion of the lead scientist.
- Note 7. Lower WP-3D is responsible for remaining coordinated with DC-8 and ER-2 during legs 2-3.

I4

2-16
5-12's

36.54N
64.51W
992
8Kts

36 65
60 Kts
5 FC

NOAA • AOC • SED
N43RF AVAPS DROP LOG

Project: Hurricane '01 / Epic

Mission: CAMEX HUMBERTO

Flight ID: 010924i

Take Off: _____

Landing: _____

Drop #	Sonde Serial #	Rcvr #	Press Offset	Launch Time	Winds Time	Operator	Comments
1	012 225030	1	.4	2052	80	JAS	LATE WINDS
2	012 525 035	2	Ø	2105	✓		GOOD
3	012 025 126	1	Ø	2118	35		"
4	012 225 027	2	?	2124	✓		"
5	012 225 033	3	Ø	2127	✓		"
6	011 218 087	4	Ø	2127	✓		cc sonde - NO WINDS
7	012 525 036	1	Ø	2129	✓		GOOD
8	012 225 024	2	?	2136	✓		"
9	012 225 034	3	30	2138	✓		"
10	012 225 031	1	.4	2152	25		"
11	012 225 208	1	Ø	2217	20		"
12	003 475 024	1	0	2238	✓		"
13	003 825 187	2	?	2248	✓		"
14	011 218 073	4	0	2249	✓		cc sonde GOOD!
15	003 115 093	1	0	2258	✓		"
16	003 825 188	2	0	2302	✓		"
17	003 475 047	3	Ø	2308	20		
18	011 218 124	1	Ø	2324	Bad		O/O SATS
19	012 525 028	2	Ø	2325	6!		
20	003 248 009	1	Ø	2352	120+		LATE - BIG GAP
21	012 025 122	1	Ø	0016	30		
22	003 115 087	2	Ø	0024	✓		
23	011 218 090	4	-5	0025	✓		cc sonde
24	012 525 027	3	0	0025	✓		
25	012 525 032	1	Ø	0031	✓		
26	012 225 035	2	Ø	0038	✓		
27	003 248 001	3	Ø	0044	29		
28	011 218 089	4	Ø	0038	✓		cc sonde - bad ?
29	012 225 032	1	0	0058	28		
* eyedrops - charge to NHC							
cc sonde charge to HRC AOC							
ATF others - HRC							

AVAPS AIM - RESEATED CARDS PRIOR TO MISSION

DATE		SCHEDULED FIX TIME		AIRCRAFT NUMBER		ARWO	
WX MISSION IDENTIFICATION						OR	
VORTEX DATA MESSAGE							
A	24/2124		Z	DATE AND TIME OF FIX			
	36 DEG 20 MIN (N) S			LATITUDE OF VORTEX FIX			
B	64 DEG 41 MIN E (W)			LONGITUDE OF VORTEX FIX			
C	850 MB 1352		M	MINIMUM HEIGHT AT STANDARD LEVEL			
D	60		KT	ESTIMATE OF MAXIMUM SURFACE WIND OBSERVED			
E	170 DEG 15		NM	BEARING AND RANGE FROM CENTER OF MAXIMUM SURFACE WIND			
F	220 DEG 65		KT	MAXIMUM FLIGHT LEVEL WIND NEAR CENTER			
G	150 DEG 23		NM	BEARING AND RANGE FROM CENTER OF MAXIMUM FLIGHT LEVEL WIND			
H	992		MB	MINIMUM SEA LEVEL PRESSURE COMPUTED FROM DROPSONDE OR EXTRAPOLATED FROM FLIGHT LEVEL. IF EXTRAPOLATED, CLARIFY IN REMARKS.			
I	17 C/ 1724		M	MAXIMUM FLIGHT LEVEL TEMP/PRESSURE ALTITUDE OUTSIDE EYE			
J	20 C/ 1721		M	MAXIMUM FLIGHT LEVEL TEMP/PRESSURE ALTITUDE INSIDE EYE			
K	16 C/ NA		C	DEWPOINT TEMP/SEA SURFACE TEMP INSIDE EYE			
L	NA			EYE CHARACTER: Closed wall, poorly defined, open SW, etc.			
M	NA			EYE SHAPE/ORIENTATION/DIAMETER. Code eye shape as: C -Circular; CO - Concentric; E- Elliptical. Transmit orientation of major axis in tens of degree, i.e., 01-010 to 190; 17-170 to 360. Transmit diameter in nautical miles. Examples: C8 - Circular eye 8 miles in diameter. EO9/16/5 - Elliptical eye, major axis 090-270, length of major axis 16 NM, length of minor axis 5NM. CO8-14 - Concentric eye, diameter inner eye 8 NM, outer eye 14 NM.			
N	12345 / 8			FIX DETERMINED BY/FIX LEVEL. FIX DETERMINED BY: 1 - Penetration; 2 - Radar; 3 - Wind; 4 - Pressure; 5 - Temperature. FIX LEVEL (Indicate surface center if visible; indicate both surface and flight level centers only when same): 0 - Surface; 1 - 1500ft; 9-925mb; 8 - 850 mb; 7 - 700 mb; 6 - 600 mb; 5 - 500 mb; 4 - 400 mb; 3 - 300 mb; 2 - 200 mb; NA - Other.			
O	1 / 2		NM	NAVIGATION FIX ACCURACY/METEOROLOGICAL ACCURACY			
P	REMARKS						
MAX FL WIND <u>65</u> <u>KT</u> <u>S</u> QUAD <u>24/2118</u> <u>Z</u> SLP EXTRAP FROM (1500 FT/ 925 MB/ 850 MB/ <u>DROPSONDE</u>) SFC CNTR _____ / _____ NM FROM FL CNTR MAX FL TEMP _____ C _____ / _____ NM FROM FL CNTR							

INSTRUCTIONS: Items A through G (and H when extrapolated) are transmitted from the aircraft immediately following the fix. The remainder of the message is transmitted as soon as available for scheduled fixes and at the ARWO's discretion for unscheduled (intermediate) fixes.

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HURRICANE RESEARCH MISSION PLAN: HUMBERTO/HL2001

NOAA/Hurricane Research Division Monday, September 24, 2001 10:38:17 AM
 Aircraft: N42RF GS: 240 kts Proposed takeoff: 24/1830Z

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TRACK DISTANCES

#	LAT (d m)	LON (d m)	RAD/AZM (nm/dg)	LEG (nm)	TOTAL (nm)	TIME (h:mm)
0	WILMINGTON			0.	0.	0:00
1	36 30	68 01	135/270	583.	583.	2:25
2	36 30	65 30	0/ 0	135.	718.	2:59
3	36 30	62 59	135/90	135.	853.	3:33
4	38 23	64 07	135/30	128.	981.	4:05
5	36 30	65 30	0/ 0	135.	1116.	4:38
6	34 37	66 53	135/210	135.	1251.	5:12
7	34 37	64 07	135/150	150.	1401.	5:50
8	36 30	65 30	0/ 0	135.	1536.	6:24
9	38 23	66 53	135/330	135.	1671.	6:57
10	WILMINGTON			674.	2345.	9:46

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HURRICANE RESEARCH MISSION PLAN: HUMBERTO/HL2001

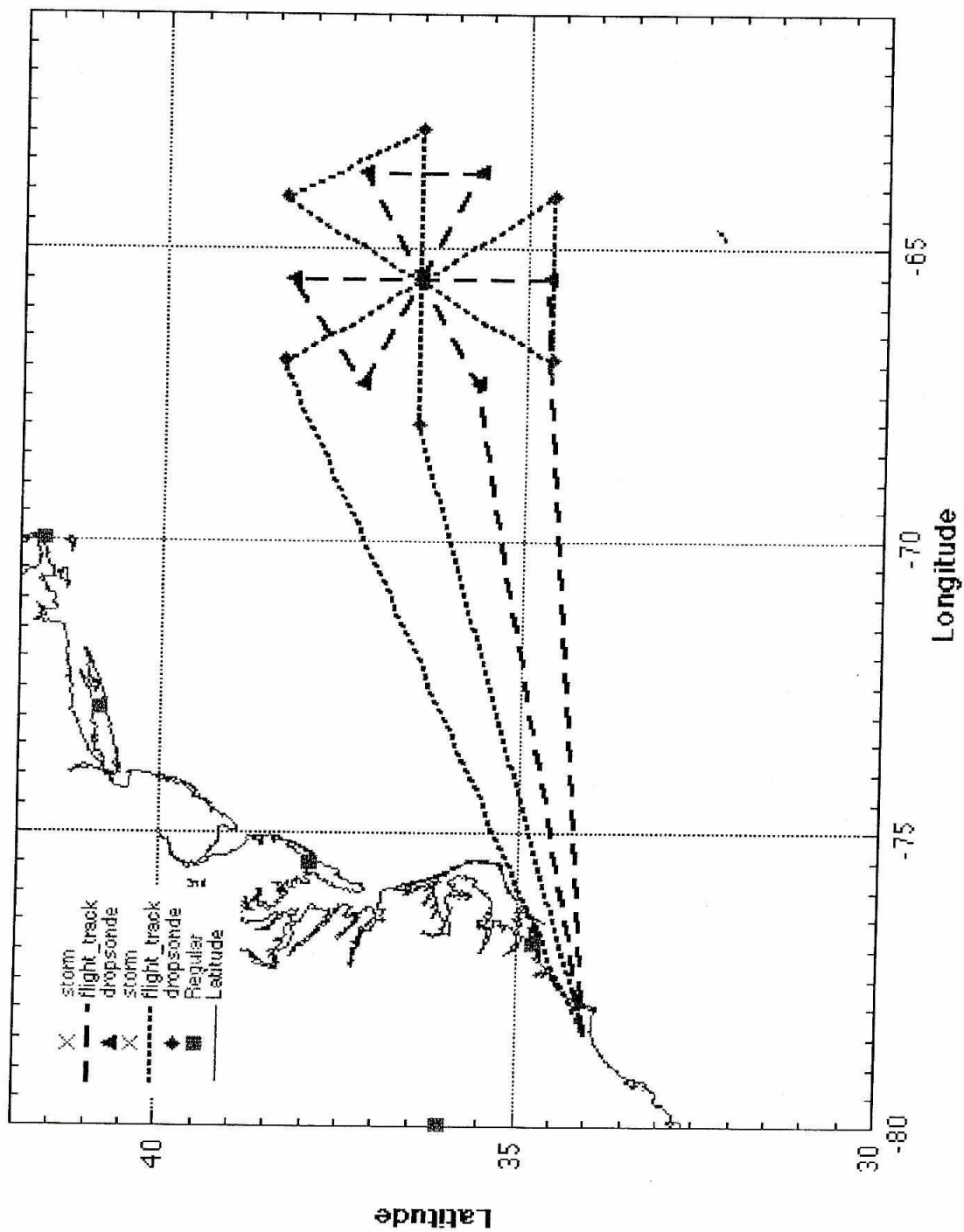
NOAA/Hurricane Research Division Monday, September 24, 2001 10:38:22 AM
 Aircraft: N43RF GS: 240 kts Proposed takeoff: 24/1830Z

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TRACK DISTANCES

#	LAT (d m)	LON (d m)	RAD/AZM (nm/dg)	LEG (nm)	TOTAL (nm)	TIME (h:mm)
0	WILMINGTON			0.	0.	0:00
1	34 42	65 30	108/180	705.	705.	2:56
2	36 30	65 30	0/ 0	108.	813.	3:23
3	38 18	65 30	108/ 0	108.	921.	3:50
4	37 19	67 18	108/300	112.	1033.	4:18
5	36 30	65 30	0/ 0	108.	1141.	4:45
6	35 41	63 43	108/120	108.	1249.	5:12
7	37 19	63 42	108/60	98.	1347.	5:36
8	36 30	65 30	0/ 0	108.	1455.	6:03
9	35 41	67 17	108/240	108.	1563.	6:30
10	WILMINGTON			612.	2175.	9:03

36 54
35 06



ETC 30 54 / 30/65 30/65 18 30/65

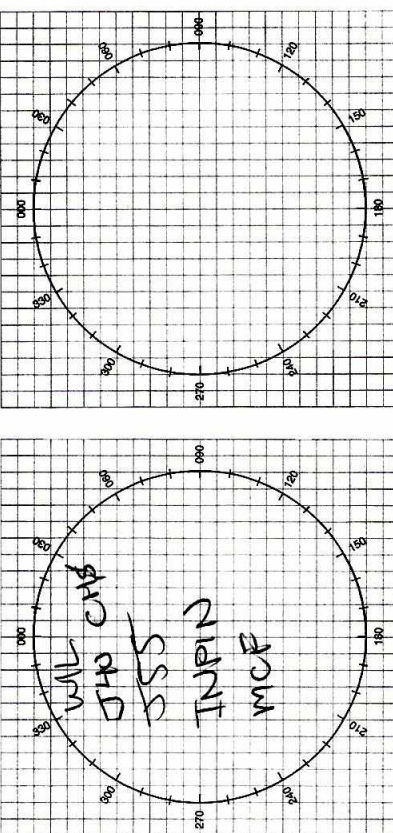
086T CW

58.4

CLEARANCES				OTHER	
FREQ	ALT	HDG			
				70K	

MISSION LOG

POSITION REPORT



EMERGENCY MESSAGE

TRANSMIT THE FOLLOWING MESSAGE TO ANY AGENCY ON THE AIR-GROUND FREQUENCY IN USE. IF UNABLE TO ESTABLISH COMMS, ATTEMPT CONTACT ON ANY OF THE FOLLOWING EMERGENCY FREQUENCIES:

UHF/VOICE 243.0 121.5 2182 KHZ 8364 KHZ 500 KHZ HF/CW MFCW

MAYDAY, MAYDAY, MAYDAY THIS IS NOAA, NOAA, NOAA

- POSITION N/S E/W AT Z

- HEADING TRUE/MAG

- AT KTS TRUE/INDICATED

- FLIGHT LEVEL OR ALTITUDE

- WE ARE A P-3 AIRCRAFT WITH SOULS ON BOARD

- NATURE OF EMERGENCY

- ASSISTANCE DESIRED

- PILOT INTENTIONS

- WE HAVE ENDURANCE REMAINING

TIME	FIX TYPE	POSITION	INS 1 POSITION	K ERR	INS 2 POSITION	K ERR	MH	VAR +E=>	TH	DR +R=>	WD	WS	ALT	TAS	NEXT PT	DIST	TIME	ETA	REMARKS
1819	ENG																		
1825	TRK																		
1825	BLK																		
1836	✓	34 12.7 077 42.7	34 12.7 077 42.4	10 1.3	34 12.7 077 42.5	10 1.2													
1906	Δ	34 12.7 077 42.7	34 12.7 077 42.4	10 1.3	34 12.7 077 42.5	10 1.2													
1945	Δ	34 12.7 077 42.7	34 12.7 077 42.4	10 1.3	34 12.7 077 42.5	10 1.2													
2056	Δ	34 12.7 077 42.7	34 12.7 077 42.4	10 1.3	34 12.7 077 42.5	10 1.2													
2124	Δ	34 12.7 077 42.7	34 12.7 077 42.4	10 1.3	34 12.7 077 42.5	10 1.2													
2200	Δ	34 12.7 077 42.7	34 12.7 077 42.4	10 1.3	34 12.7 077 42.5	10 1.2													
2243	Δ	34 12.7 077 42.7	34 12.7 077 42.4	10 1.3	34 12.7 077 42.5	10 1.2													
2252	Δ	34 12.7 077 42.7	34 12.7 077 42.4	10 1.3	34 12.7 077 42.5	10 1.2													
2254	Δ	34 12.7 077 42.7	34 12.7 077 42.4	10 1.3	34 12.7 077 42.5	10 1.2													
2341	Δ	34 12.7 077 42.7	34 12.7 077 42.4	10 1.3	34 12.7 077 42.5	10 1.2													
0037	Δ	34 12.7 077 42.7	34 12.7 077 42.4	10 1.3	34 12.7 077 42.5	10 1.2													
0124	Δ	34 12.7 077 42.7	34 12.7 077 42.4	10 1.3	34 12.7 077 42.5	10 1.2													
0313	Δ	34 12.7 077 42.7	34 12.7 077 42.4	10 1.3	34 12.7 077 42.5	10 1.2													

3637 64 28 12512

628 FP = 2049

INS PERFORMANCE		INS 1	INS 2
BEGIN ALIGN TIME		1616	1616
ALIGN STATUS (0-5)		1	1
END NAV TIME		0313	0313
START NAV TIME		1814	1814
DELTA T		8459	8459

TERMINAL ERRORS		
	INS 1	INS 2
DELTA LAT	-6.6	-8.6
DELTA LON	+6.5	+3.8
RGS	2	1
RADIAL ERROR	9	9

[illegible]