

HURRICANE DENNIS SURVEILLANCE

Flight 1 I990826

DATA TYPE	SENSOR or OPTION
INE	2
Accelerometer	2
Temperature Probe	1
Altitude (for vertical wind)	RA159
Static Pressure	Fuselage
Dynamic Pressure	Fuselage
Dewpoint Probe	2

Notes:

There were no data/time gaps.

Numerous small spurious spikes in the fuselage static pressure (PSF) and dynamic pressure (PQF1) data occurred during the following time frames:

1921Z - 1924Z
1925Z - 1928Z
1940Z - 1948Z
1955Z - 1958Z
2012Z - 2016Z
2022Z - 2024Z
2037Z - 2039Z
2050Z - 2052Z
2125Z - 2127Z
2311Z - 2315Z

These spikes were removed and patched over.

From 2234Z until 2307Z, the aircraft was flying over land. This deviation in track was due to military operations between 77W and 69W.

Aircraft INE positions were renavigated with respect to GPS.

SPECIAL NOTE!!! Locations 80, 81 and 82 of record five on the standard tape contain vertical ground, vertical air and vertical wind speeds, respectively, derived from Dave Jorgensen's vertical wind algorithm. It is recommended that these values be used for vertical wind analysis.

	Takeoff	Landing
Aircraft static pressure	1012.2 mb	1018.6 mb
Corrected tower pressure	1012.4 mb	1019.1 mb

Flight Director: A. Barry Damiano, (813) 828-3310 ext. 3073

FLT ID: 1990826	FM: KMCF	TO: FMCF LMTA
FLT NO: 99-048	BLK IN: 15142/01192	ATA: 15092/01072
ETD: 1400Z	BLK OUT: 14027/17302	RTD: 14142/17382
ETE:	BLK TIME: 1:12/7:49	FLT TIME: 8:55/7:29
SPONSOR ORG: NHC	PROGRAM: HURR. SURV.	PURPOSE: H. DENNIS, H. CINDY TS. EMILY

DAO PERSONNEL

land in Bermuda (TXKF)

AC: McKim	SYS ENG: LINO
CP: O'MARA	DATA SYS: LYNCH
NAV: NEWMAN/STRONG	RADAR:
FE: WADE/MOORE	BT/ODW: CARPENTER McNAMARA
RADIO: SANS SOUET	CLD PHYS:
FD: DAMIANO	DOPPLER:

PARTICIPATING SCIENTIST/VISITORS/DAO

LAST, FIRST NAME	ACTIVITY ON A/C	AFFILIATION
31 <u>McFADDEN</u>	??	AOC
FLOYD	MISC	AOC
GAMACHE	RADAR	HRD
BLACK, P.	PI	}
BLACK, M.	MAPS	
DODGE, P.	RADAR	
TELEMAN, B.	DBS	MEDIA
47 PIERCE, ROB	DBS	MEDIA (NBC)

PROPOSED/ACTUAL MISSION/REMARKS (RECCO, FIXES, STORM, PENET, NHOP #)

Get TBW sounding
1456Z
30
24

McFADDEN FLEW BT today
ON 42 during mission 9 BT
Stopped in Miami to pickup
HRD folks

24° 39'
73° 55'
1910Z

2234Z sent ~~in~~ inland by ATC due to
military ops between 77W and 69W

TRIED TO ALTER ROUTE ALONG 34° 15' BUT DENIED BY NY CENTER

U.S. DEPT. COMM./NOAA/ORA - DATA SECTION WORK FORM NO.2 OROWF2 FILE

FLT ID: I990826 TIME OFF: 14142/17382 TIME ON: 15092/01072

	A/C T/O	WX STN	A/C LAND	WX STN
PRESSURE	1013.7/1011.9	29.95/29.91	1012.6/1018.6	29.93/30.11

NO DATA DISPOSITION/DATE/QUALITY

1/SEC FLT LVL TAPES

2

FAST FLT LVL TAPES

RADAR TAPES

1

DOPPLER TAPES

ODW CASSETTES

HARD COPIES

AXBT

6

AXCP

ODW GPS

17

PHOTOGRAPHY

	FWD	LS	RS	VERT
ON				
OFF				
RATE				

REMARKS

19432 from 42
 24° 39' 1", 994 m. from
 73° 53' sonde

I990826

3415 7831

TIME	LAT	LONG	TRK	HD	WD	WS	TA	TD	PA	GA	SP	PS	HAZE	PG
141700	2754	8220	85	87	242	2	21.8	16.7	1104	1186	1012.8	881.8	CLR	64.3
143100	2704	8212	154	154	333	4	-2.5	-12.4	5197	5495	1009.1	526.8	CLR	62.7
145700	2549	8045	89	87	11	13	12.7	-0.8	2756	2898	1010.3	723.1	CLD BLW	80.0
160700	2521	7841	111	111	14	6	-2.3	-12.2	5209	5496	1005.9	525.2	BTN CLD	76.7
182300	2455	7724	110	109	358	10	-1.1	-12.9	5202	5498	1005.1	525.8	BTN CLD	69.7
184200	2422	7552	110	108	344	22	1.0	-17.9	5197	5477	998.4	526.1	BTN CLD	73.0
185431	2401	7450	46	40	311	28	6.9	2.5	3516	3653	1002.1	656.4	DROP	73.3
190606	2428	7406											DROP	
190615													BT	
191448	2455	7340											DROP	
191548	2453	7336											BT	
191626	2458	7331											DROP	
192006	2508	7322											DROP	
194334	2613	7203											BT	
195300	2645	7120	50	58	126	31	-5.6	-18.3	5678	6012	1008.9	493.0	BTN CLD	73.7
200029	2703	7104	292	291	119	28	-5.6	-25.6	5679	6017	1009.7	493.0	DROP	70.7
202433	2731	7320											DROP	
202448	2731	7322											BT	
204918	2801	7540	283	285	100	11	-8.2	-13.6	5985	6337	1008.7	472.9	DROP	69.3
204928	2801	7541											BT	
201447	2830	7759											BT	
211538	2833	7800	6	7	221	1	-7.4	-28.6	5983	6336	1008.5	473.0	BT	70.9
213457	3006	7746	8	9	211	11	-8.2	-16.4	5984	6336	1009.5	472.8	DROP	70.2
215212	3130	7749	353	350	228	23	-16.1	-24.7	7045	7455	1010.4	407.9	DROP	70.7
221955	3300	7740	359	356	219	33	-15.4	-23.5	7042	7438	1007.4	408.1	DROP	70.1
231000	3532	7513	134	142	241	37	-16.7	-18.3	7040	7431	1009.8	408.2	BTN CLD	72.7
233320	3416	7329	96	100	210	27	-17.3	-19.8	7215	7645	1009.8	398.4	BAD DROP	73.9
233647	3415	7307	92	97	215	27	-16.9	-23.5	7269	7705	1009.3	394.5	DROP	68.6
234058	3415	7340	90	95	211	25	-17.2	-26.8	7362	7807	1009.4	390.2	DROP	73.4
000049	3416	7030	88	93	226	28	-19.4	-38.5	7659	8133	1012.5	373.9	DROP	74.5
001849	3411	6830	105	108	249	23	-20.0	-35.0	7658	8140	1013.4	374.0	DROP	69.1

(G) - GPS (I) - INS (R) - RADIO (V) VISUAL (C) - CELESTIAL (D) - DR

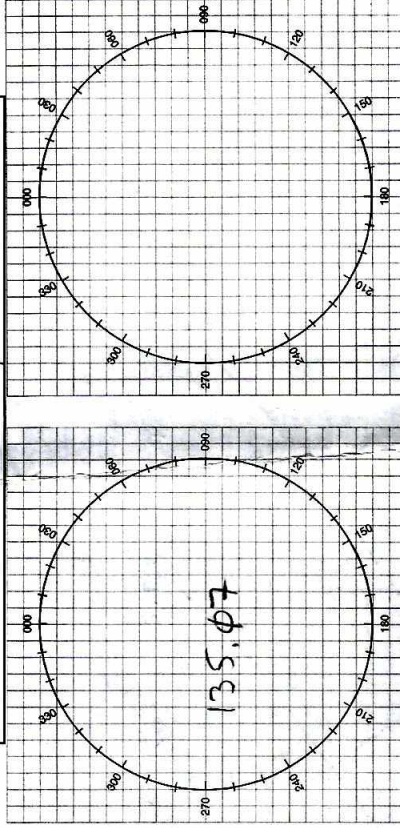
[illegible]

CLEARANCES

FREQ	ALT	HDG	OTHER
			MIA 3 SKIPS FPL
			5000 HIGHER

MISSION LOG

PAGE 1 OF 1



POSITION REPORT

1. POSITION
2. TIME
3. ALTITUDE
4. NEXT POSITION
5. ETA
6. NEXT POSITION

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 VHF/VOICE MF/VOICE HF/CW MF/CW
243.0 121.5 2182 KHZ 8364 KHZ 500 KHZ

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

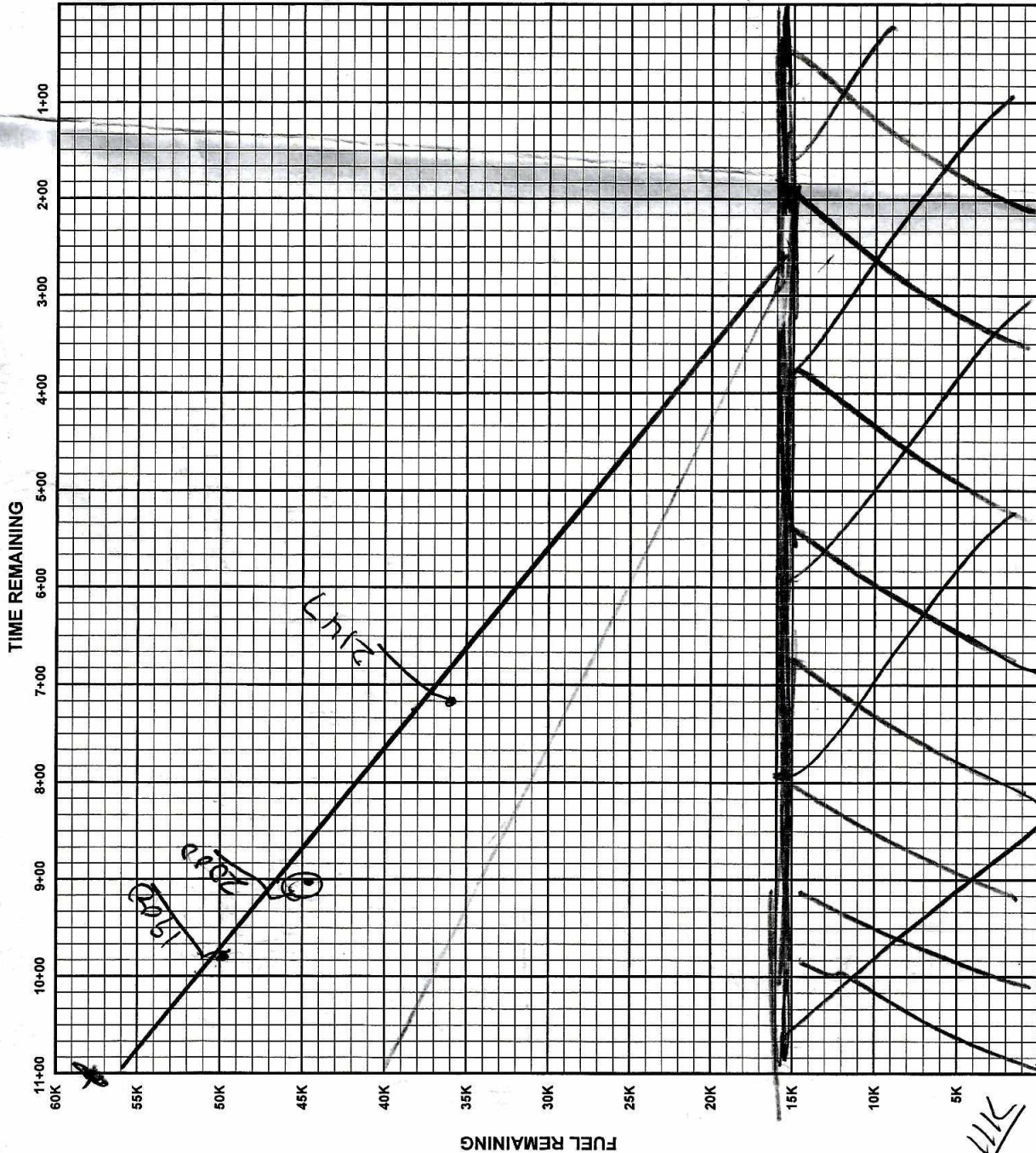
TIME	FIX TYPE	POSITION	INS 1 POSITION	K ERR	INS 2 POSITION	K ERR	VAR +E==>	TH	DR +R==>	TRK	GS	WD	WS	ALT	TAS	NEXT PT	DIST	TIME	ETA	REMARKS
1357																				ENL START 32K 29.95
1402																				Taxi
1413																				Taxi
1509																				A 13500 3245 27R LAND
1614																				Block
1724																				ENG START
1730																				Taxi 58K 29.91
1737																				Taxi
1757		25 37.7 74 21.2	25 37.7 74 21.2	0 -1	25 38.0 74 21.2	-1.3 0		111	0	111	245	31	6	7	248					
1903		24 21.5 74 18.7	24 21.5 74 18.7	-1.2 +1.7	24 22.6 74 18.0	-1.1 +1.7		61			247	016	30	11.5	263 (3)				1916	
1906		24 27.9 74 06.6	24 27.9 74 06.6																	
1930	8PS	25 36.9 72 47.0	25 37.3 72 46.0	-0.4 +1.0	25 38.7 72 46.1	-1.8 +1.9		064	8 W	056	248	132	34	11.5	254 (4)					
2124		29 13.8 75 54.2	29 15.7 77 52.8	-1.5 +1.8	29 17.3 77 51.5	-3.4 +2.3		8		8	273	209	3	19.5	289 (6)				2152	
2230		33 55.9 77 40.5	33 58.1 77 47	-2.2 +1.5	34 00 77 45.5	-4.1 +3		35			339	280	41	230	300					
2350	5	34 15.1 71 47.3	34 16.5 71 44.8		34 19.5 71 42.7															
0110	✓	34 21.8 64 22.1	34 22.4 64 38.9	-0.6 +3.2	34 25.8 64 36.0	-4.0 +6.1														

2007 1 Aug 10

007 - 241
008 - 241
009 - 0107
010 - 0119

**U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
AIRCRAFT OPERATIONS CENTER**

RANGE CONTROL GRAPH



ETP = .5(TOTAL DISTANCE x OUTBOUND WIND FACTOR)

 $\frac{1}{2} \times \frac{1}{4}$

WIND FACTOR			
WINDSPEED	HEADWIND	TAILWIND	
10	1.03	.97	
20	1.06	.94	
30	1.10	.92	
40	1.14	.89	
50	1.18	.87	
60	1.22	.85	

PRESS AL.T	200	250	300	350
10,000	1.0	1.0	.99	.99
20,000	.99	.98	.97	.97
30,000	.97	.96	.95	.94
40,000	.96	.94	.92	.90

[illegible]

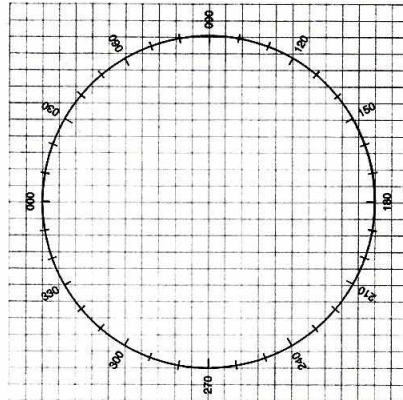
ENROUTE FUEL	
ENROUTE TIME	8:30
ENROUTE FUEL (6K 5K 4.5K RULE)	40K
RESERVE AT DESTINATION	16K
REQUIRED RAMP	56K
ACTUAL RAMP FUEL	

TACTICAL (OFFSTA TO DESTINATION)		
4 ENG	3 ENG	
DISTANCE (OFFSTA TO DEST)		
ENROUTE TIME (OFFSTA TO DEST)		
BURN RATE (LBS/HR)	4500	5500
ENROUTE FUEL REQUIRED		
RESERVE AT DESTINATION		
FUEL AT OFFSTA		

POINT OF SAFE RETURN		4 ENG	3 ENG
ETP DISTANCE (TO DEPARTURE)			
ENROUTE TIME (TO DEPARTURE)			
BURN RATE (LBS/HR)	4500	5500	
FUEL REQUIRED			
RESERVE AT DEPARTURE			
PSR FUEL			

CEX - TRUE BEARING METHOD				
COMPASS TYPE	INS1	INS2	WET	
MCH (READING)				
- MTH (SEXTANT)				
CE				
- VAR				
DEV				

CEX - ERB METHOD				
COMPASS TYPE	INS1	INS2	WET	
MERB (DIAL 000)				
+ ZN				
= MTH				
MCH (READING)				
OE				
- VAR				
= DEV				



CEX SIGHT	
GMT	
GHA	
CORR	
GHA	
LONG W E	
EXACT LHA	
LAT	
BODY	
DEC	
HC / D	
CORR	
HC	
Z	
ZN	

$$\begin{array}{r} 8.5 \\ \times 4.5 \\ \hline 425 \\ 3250 \\ \hline 377.5 \end{array}$$

KneeBoard 3

FLIGHT PLAN FOR STRONG

COMPUTED 26AUG1999 1338Z

BASED UPON 1999082600 WEATHER DATA
BASED UPON 12Aug1999-08Sep1999 AERONAUTICAL DATA
LEG01 STANDARD KMIA TO TXKF

26AUG1999

ACFT TYPE N43RF DRAG: 0 EFF: 100 FUEL: UNKN

PLANNED FOR ETD 0600Z INITIAL CRUISE FLIGHT LEVEL 180

FUEL TIME DIST ARRIVE RAMP LAND CARGO OPNLWT
POA 39735 08/24 2456 1424Z 132735 93000 0 77000
ALT ...
RES 16000 03/24
TOT 55735 11/48

2993
29
25

FUEL BIAS: 100 DBIAS: 0 ABIAS: 0 IBIAS: 0

ROUTING USED FOR THIS LEG

KMIA .. 24074 .. 25073 .. 27071 .. 29078 .. 32077 .. 32075 .. 35073
.. 31072 .. 30070 .. 34069 .. TXKF

SPECIAL PERFORMANCE USED ON THIS LEG INCLUDE:

CLIMB TIME 20 MINUTES
CLIMB DIST 100 MILES
CLIMB FUEL 2000 POUNDS
CRUISE TAS 290 KNOTS
CRUISE F/F 4700 POUNDS/HR

TO	FL	T/C	M/C	WIND	DFT	G/S	TAS	DIS	CUMD	DISR	ETE	CUMT	ETR	EFR
KMIA	10	***	*****	00000	00	***	***	1	1	2456	00/03	00/03	08/21	55635
TOC	180	110	115.9	35504	00	303	300	96	97	2360	00/19	00/22	08/02	53731
24074	180	110	117.7	00511	R01	293	290	217	314	2143	00/44	01/06	07/17	50252
25073	180	045	53.7	09009	00	283	290	90	404	2053	00/19	01/26	06/58	48751
27071	180	052	62.8	13519	L02	285	290	186	590	1866	00/39	02/05	06/19	45676
28075	180	284	293.3	11511	00	304	290	220	810	1647	00/43	02/48	05/36	42281

29078	180	283	289.4	17003	00	294	290	163	973	1484	00/33	03/21	05/02	39684
32077	180	008	16.0	20514	00	297	290	182	1155	1302	00/37	03/58	04/26	36811
32075	180	090	99.4	19515	L01	296	290	115	1270	1187	00/23	04/21	04/02	34986
35073	180	028	40.1	22524	00	309	290	238	1508	949	00/46	05/08	03/16	31357
31072	180	175	185.6	17012	L01	276	290	271	1779	677	00/59	06/07	02/17	26742
30070	180	103	115.3	16012	L01	284	290	133	1912	544	00/28	06/35	01/49	24540
34069	180	005	19.1	23021	R01	303	290	271	2184	273	00/54	07/28	00/55	20335
TXKF	180	118	133.5	25007	L01	296	290	273	2457	0	00/55	08/24	00/00	16000
KMIA	N25476W080174			*TOC*	N25148W078371				24074	N24010W074530				
25073	N25050W073430			27071	N27000W071000				28075	N27543W075000				
29078	N28300W078000			32077	N31300W077300				32075	N31300W075150				
35073	N35000W073000			31072	N30300W072300				30070	N30000W070000				
34069	N34300W069300			TXKF	N32218W064407									

TOC = TOP OF CLIMB

FOLLOWING AIRSPACES PENETRATED

FIR BOUNDARY:	KZ /KZMA	TIME:	00+18	POSITION:	N25223,W079000
FIR BOUNDARY:	KZMA/KZNY	TIME:	01+30	POSITION:	N25191,W073230
FIR BOUNDARY:	KZNY/KZ	TIME:	03+10	POSITION:	N28181,W077000
FIR BOUNDARY:	KZ /KZNY	TIME:	04+03	POSITION:	N31300,W077000
FIR BOUNDARY:	KZNY/KZ	TIME:	05+05	POSITION:	N34464,W073087
FIR BOUNDARY:	KZ /KZNY	TIME:	05+09	POSITION:	N34528,W072592

FOLLOWING AIR DEFENSE IDENTIFICATION ZONES PENETRATED

	TIME	POSITION
ENTERING: EAST/SOUTH CONUS ADIZ	00+08	N25387,W079503

LEAVING : EAST/SOUTH CONUS ADIZ 00+13 N25305,W079250
ENTERING: EAST/SOUTH CONUS ADIZ 03+16 N28240,W077297
LEAVING : EAST/SOUTH CONUS ADIZ 05+48 N31539,W072393

TOTAL WIND FACTOR 4KTS

***** EMERGENCY DATA *****

	Altitude for NORMAL (FL180)	Altitude for ENGINE FAIL (FL 0)
	DIST TIME	DIST TIME
ETP	1212 04+10	0 00+00
PSR	1584 05+24	0 00+00
PNR	1709 05+51	0 00+00

	LAT	LONG	TO	ON DECK/	ALT	TAS/FFLOW/WFAC
ENGINE FAIL AT ETP	N00000	E000000	TXKF	0/	0/	0/
			KMIA	0/	0/	0/
PRESS LOSS AT ETP	N00000	E000000	TXKF	0/	0/	0/
			KMIA	0/	0/	0/

=====

HURRICANE SYNOPTIC SURVEILLANCE MISSION PLAN: CINDY/SYNFLOW

Prepared by the Hurricane Research Division at 03:53:17 PM on 08/25/99.
File: 990826h.ftk

Aircraft: N42RF Altitude: FL180-250 Proposed takeoff: 26/1730Z

=====

DROP LOCATIONS

=====

#	LAT (d m)	LON (d m)	RAD/AZM (nm/dg)	TIME (h:mm)
1	25 12	76 48		0:50
2	25 12	75 12		1:08
3	24 36	73 36		1:27
4	24 00	72 00		1:47
5	24 00	69 40		2:14
6	24 00	67 20		2:40
7	24 00	65 00		3:07
8	23 30	63 15		3:27
9	23 00	61 30		3:48
10	22 30	59 45		4:09
11	22 00	58 00		4:30
12	22 45	56 27		4:51
13S	23 30	54 54	50/270	5:11
14S	23 30	53 06	50/090	5:31
15	25 00	51 30		5:57
16	26 00	53 30		6:23
17	26 00	55 30		6:45
18	26 00	57 30		7:08
19	27 35	59 18		7:36
20	29 11	61 05		8:03
21	30 46	62 53		8:31

=====

HURRICANE SYNOPTIC SURVEILLANCE MISSION PLAN: DENNIS/SYNFLOW

Prepared by the Hurricane Research Division at 03:26:46 PM on 08/25/99.
File: 990826i.ftk

Aircraft: N43RF Altitude: FL180-250 Proposed takeoff: 26/1730Z

=====

DROP LOCATIONS

=====

#	LAT (d m)	LON (d m)	RAD/AZM (nm/dg)	TIME (h:mm)
1S	24 12	76 00	60/180	1:02
2S	26 12	76 00	60/000	1:27
3S	25 12	77 06	60/270	1:45
4S	25 12	74 54	60/090	2:09
5	26 00	73 42		2:26
6	26 48	72 30		2:43
7	27 00	70 00		3:11
8	29 00	70 00		3:35
9	29 00	72 30		4:03
10	29 00	75 00		4:30
11	29 00	77 30		4:57
12	31 30	77 30		5:28
13	31 30	75 00		5:55
14	33 30	75 00		6:20
15	33 30	72 30		6:45
16	31 30	72 30		7:10
17	31 30	70 00		7:37
18	33 30	69 30		8:02
19	32 56	67 05		8:28

=====

HURRICANE SYNOPTIC SURVEILLANCE MISSION PLAN: EMILY/SYNFLOW

Prepared by the Hurricane Research Division at 03:42:16 PM on 08/25/99.
File: /home/hrd/flight_tracks/990826n.ftk

Aircraft: N49RF Altitude: FL410-450 Proposed takeoff: 26/1730Z

=====

DROP LOCATIONS

#	LAT (d m)	LON (d m)	RAD/AZM (nm/dg)	TIME (h:mm)
1	23 24	77 09		0:40
2	21 00	74 00		1:11
3	21 00	71 00		1:34
4	21 00	68 00		1:57
5	21 00	65 00		2:20
6	20 30	62 30		2:39
7	20 00	60 00		2:59
8	17 30	58 00		3:24
9	20 00	56 30		3:48
10	20 00	54 45		4:01
11	20 00	53 00		4:15
12	21 15	51 33		4:30
13	22 30	50 06		4:45
14	20 30	50 06		5:01
15	18 30	50 06		5:17
16	16 30	50 06		5:34
17	16 30	53 00		5:56
18	14 30	53 00		6:13
19	12 30	53 00		6:29
20	12 30	55 15		6:47
21	12 30	57 30		7:05
22	12 30	59 45		7:23
23	12 30	62 00		7:41
24	14 14	62 56		7:57
25	15 58	63 52		8:13

=====

HURRICANE SYNOPTIC SURVEILLANCE MISSION PLAN: XXXX

Prepared by the Hurricane Research Division at 08:40:25 AM on 08/26/99.
File: 990826n.ftkAircraft: N49RF Altitude: FL410-450 Proposed takeoff: 25/1730Z
=====

DROP LOCATIONS

=====

#	LAT (d m)	LON (d m)	RAD/AZM (nm/dg)	TIME (h:mm)
1	24 12	78 12		0:30
2	22 36	76 06		0:51
3	21 00	74 00		1:11
4	21 00	71 45		1:28
5	21 00	69 30		1:45
6	21 00	67 15		2:03
7	21 00	65 00		2:20
8	20 00	62 15		2:42
9	19 00	59 30		3:05
10	19 00	57 00		3:24
11	20 53	55 15		3:45
12	22 45	53 30		4:05
13	24 38	51 45		4:25
14	26 30	50 00		4:45
15	23 45	50 00		5:07
16	21 00	50 00		5:30
17	18 20	52 20		5:58
18	15 40	54 40		6:26
19	13 00	57 00		6:55
20	13 00	62 00		7:35

HURRICANE SYNOPTIC SURVEILLANCE MISSION PLAN: XXXX

Prepared by the Hurricane Research Division at 08:40:30 AM on 08/26/99.
File: 990826i.ftk

Aircraft: N43RF Altitude: FL180-250 Proposed takeoff: 26/1730Z

DROP LOCATIONS

12K RA

TEAL 10

#	LAT (d m)	LON (d m)	RAD/AZM (nm/dg)	TIME (h:mm)
1S	24 01	74 53	BT 45/225	1:15
2S	25 05	73 45	BT 45/045	1:34
3	27 00	71 00	center BT	2:12
4	27 30	73 20	BT	2:39
5	28 00	73 40	BT	3:05
6	28 30	70 00	BT	3:31
7	30 00	77 45		3:50
8	31 30	77 30		4:09
9	3200 31 30	76 50S		4:33
10	33 15	74 08		4:58
11	35 00	73 00		5:22
12	32 45	72 45		5:50
13	30 30	72 30		6:19
14	30 00	70 00		6:46
15	32 15	69 45		7:14
16	34 30	69 00		7:42

CRSND 2

AVIARS OFF

127.925

34° 15'

~~69° 00'~~ 68° 30'

19432

24° 39'

73° 53'

994 mb

30

=====

HURRICANE SYNOPTIC SURVEILLANCE MISSION PLAN: XXXX

Prepared by the Hurricane Research Division at 08:40:33 AM on 08/26/99.
File: 990826h.ftk

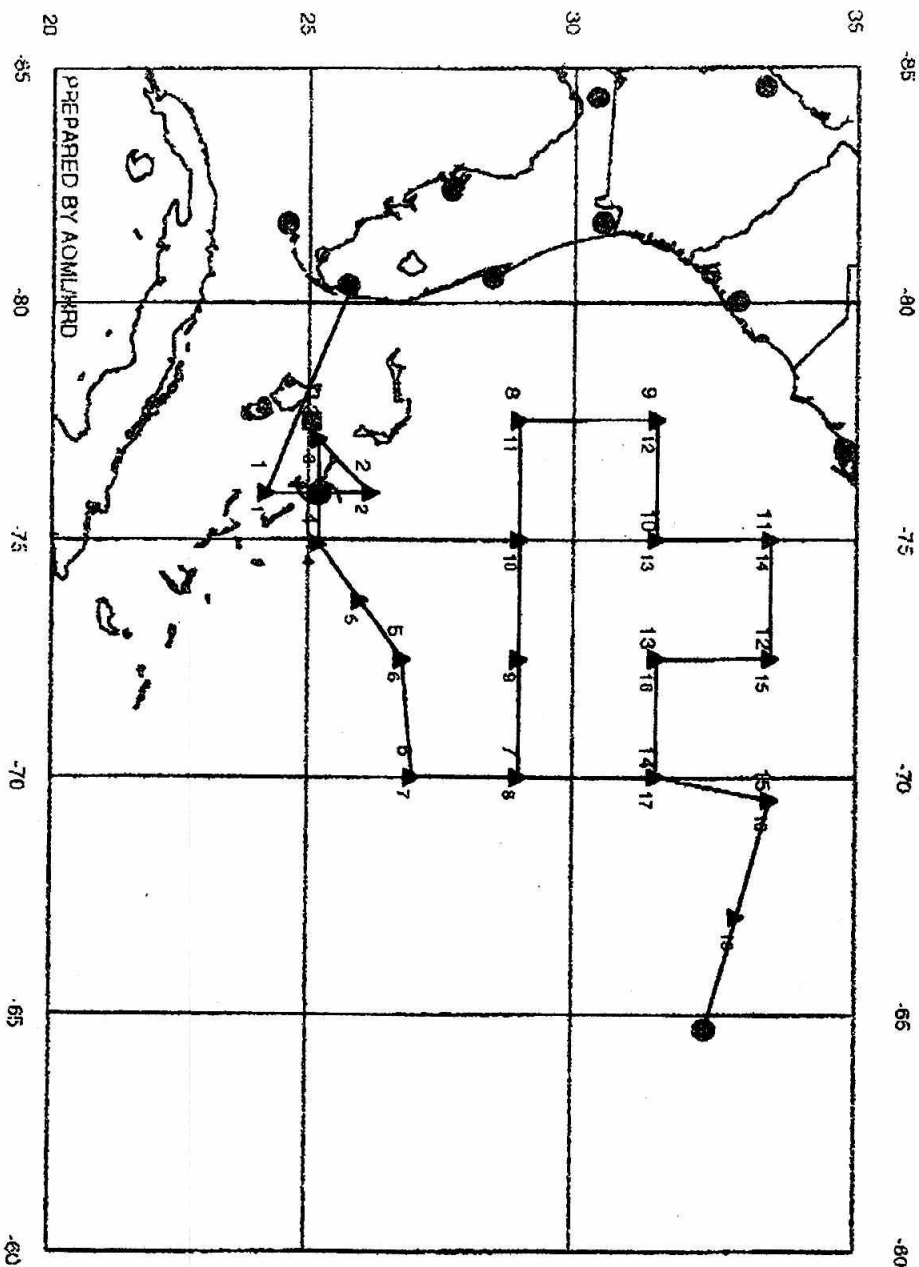
Aircraft: N42RF Altitude: FL180-250 Proposed takeoff: 26/1730Z
=====

DROP LOCATIONS

=====

#	LAT (d m)	LON (d m)	RAD/AZM (nm/dg)	TIME (h:mm)
1	25 26	77 35		0:41
2S	25 05	74 53	45/315	1:11
3S	24 01	73 43	45/135	1:30
4	24 01	71 32		1:55
5	24 01	69 22		2:20
6	24 00	67 11		2:44
7	24 00	65 00		3:09
8	23 30	62 40		3:36
9	23 00	60 20		4:04
10	22 30	58 00		4:31
11	24 09	55 33		5:06
12	25 48	53 06		5:40
13	27 30	52 30		6:03
14	27 30	55 00		6:30
15	26 30	57 30		7:00

=====



I 990826

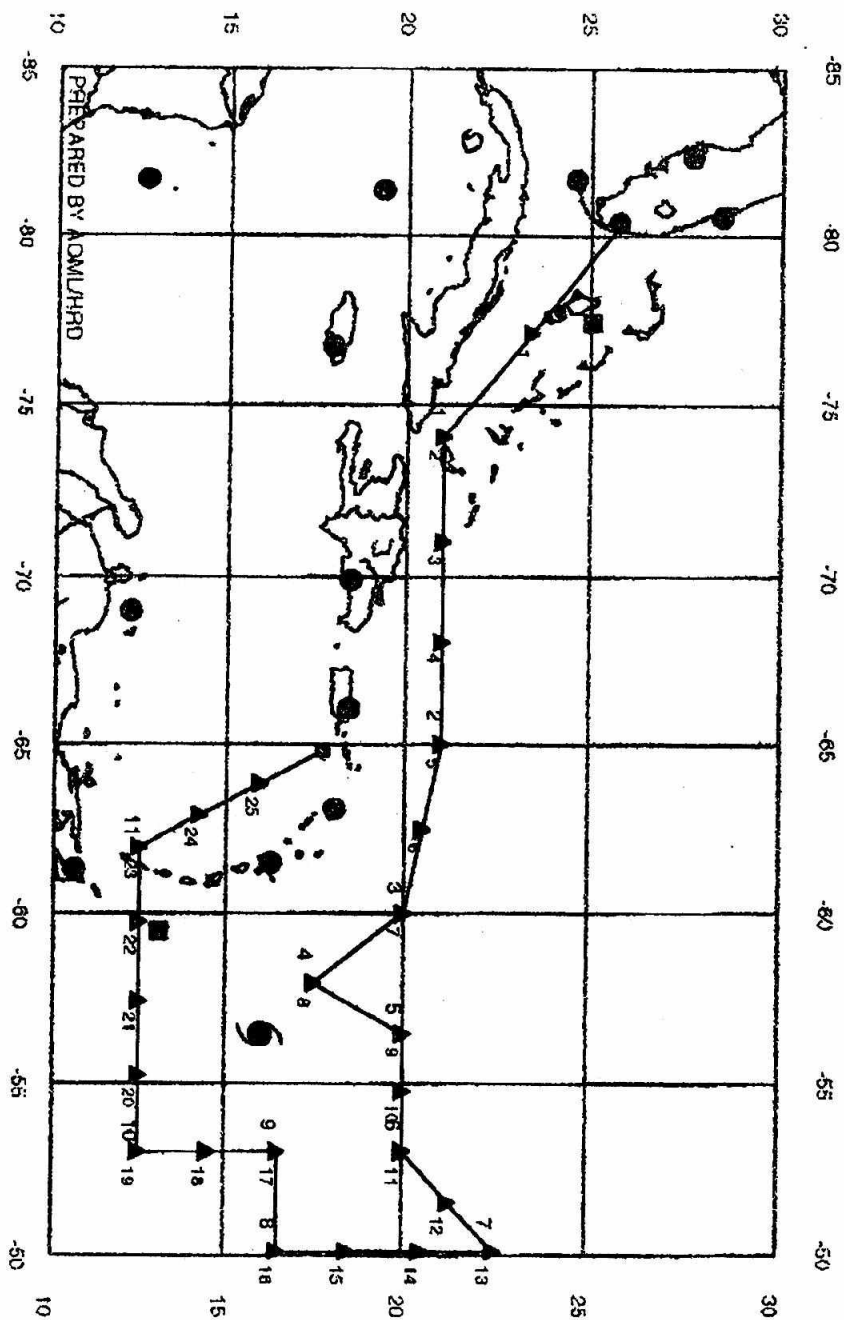
43
FLIGHT TRACKS
DENNIS/SYNFLOW

9908261.RK

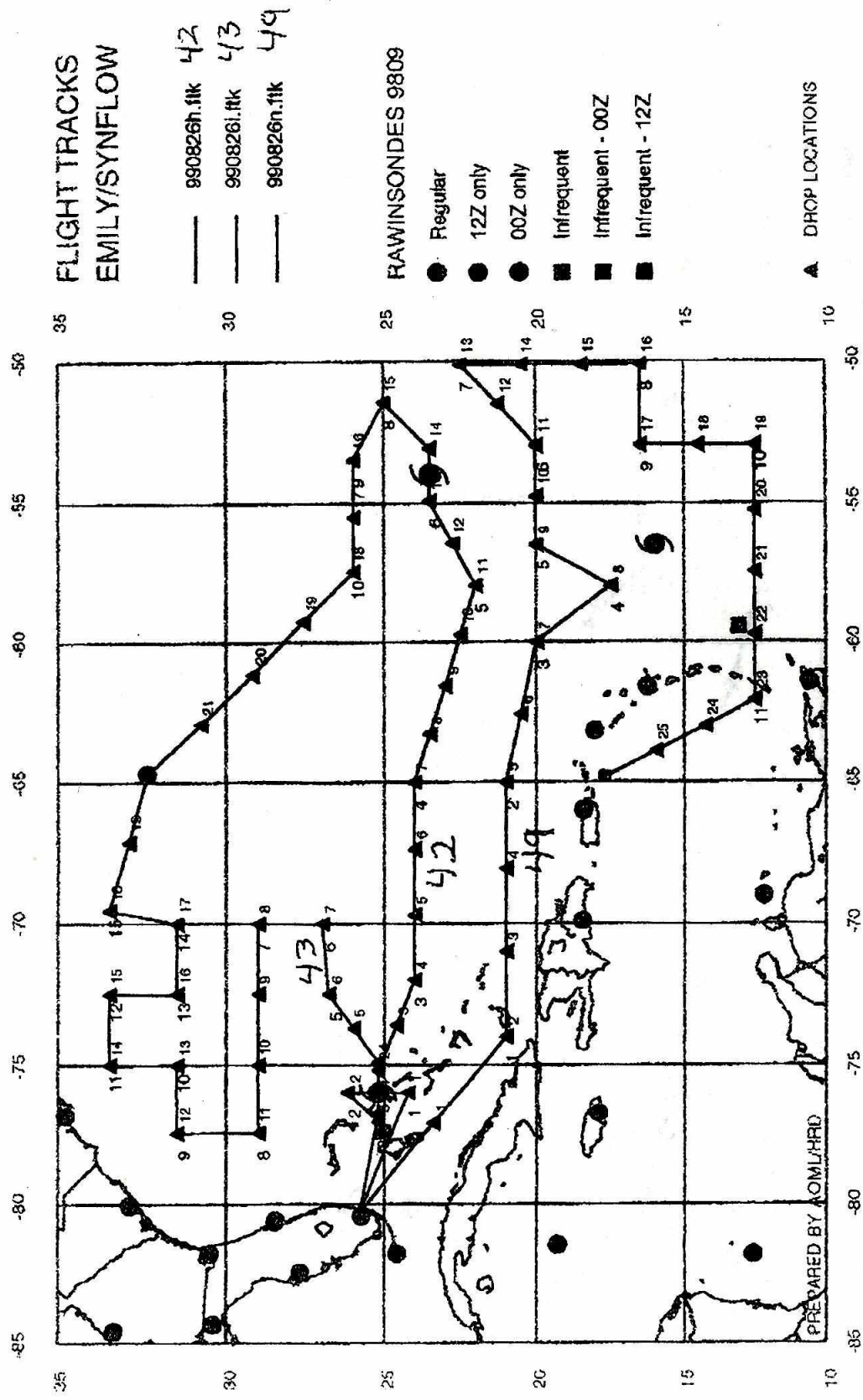
RAWINSONDES 9809

- Regular
- 12Z only
- 00Z only
- Infrequent
- Infrequent - 00Z
- Infrequent - 12Z

▲ DROP LOCATIONS



2044 T000000 * 1001 0001 1



3044200000 . 1011111

May 27 1967

Map showing the track of a vessel in the North Pacific Ocean. The track is marked by numbered points (1 through 21) connected by a line. The map includes latitude and longitude coordinates, a grid, and a coastline. A note at the bottom right reads "PREPARED BY AOML/HRD".

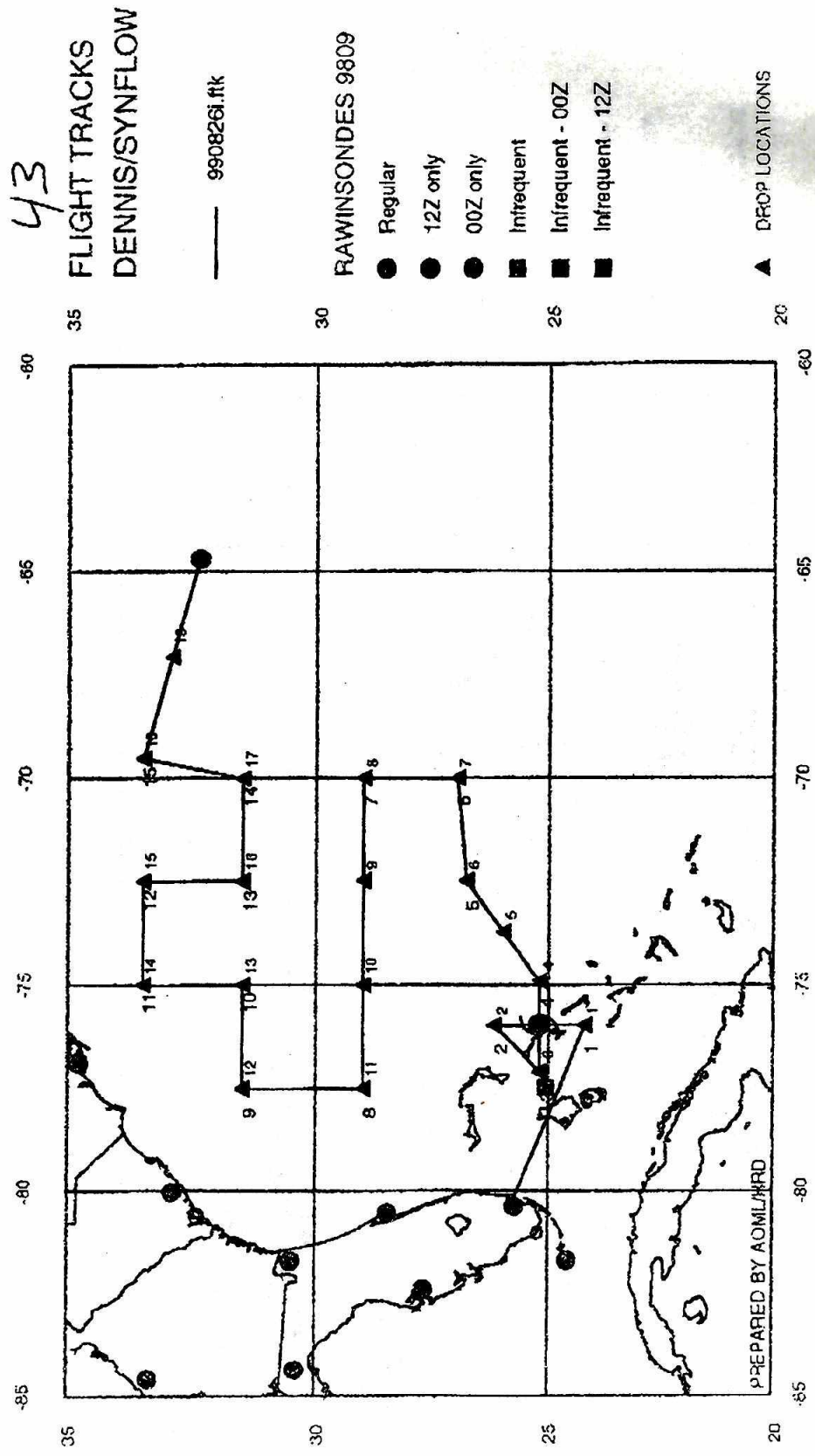
PREPARED BY AOMLYHHD

- Regular
- 12Z only
- 00Z only
- Infrequent
- Infrequent - 12Z
- Infrequent - 00Z

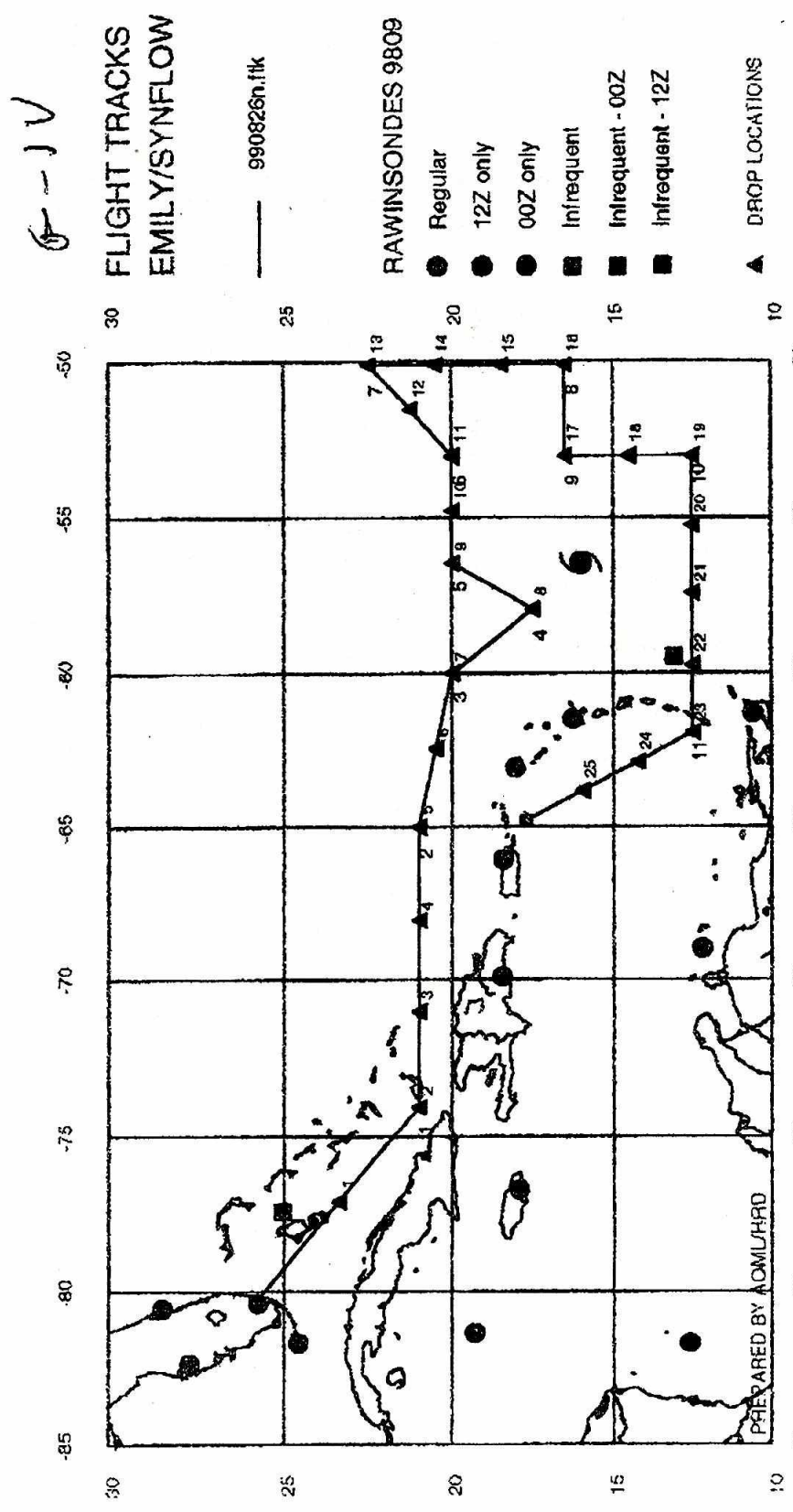
Aug. 25 1999 04:24PM P4

FAX NO. : 3053614402

FROM :

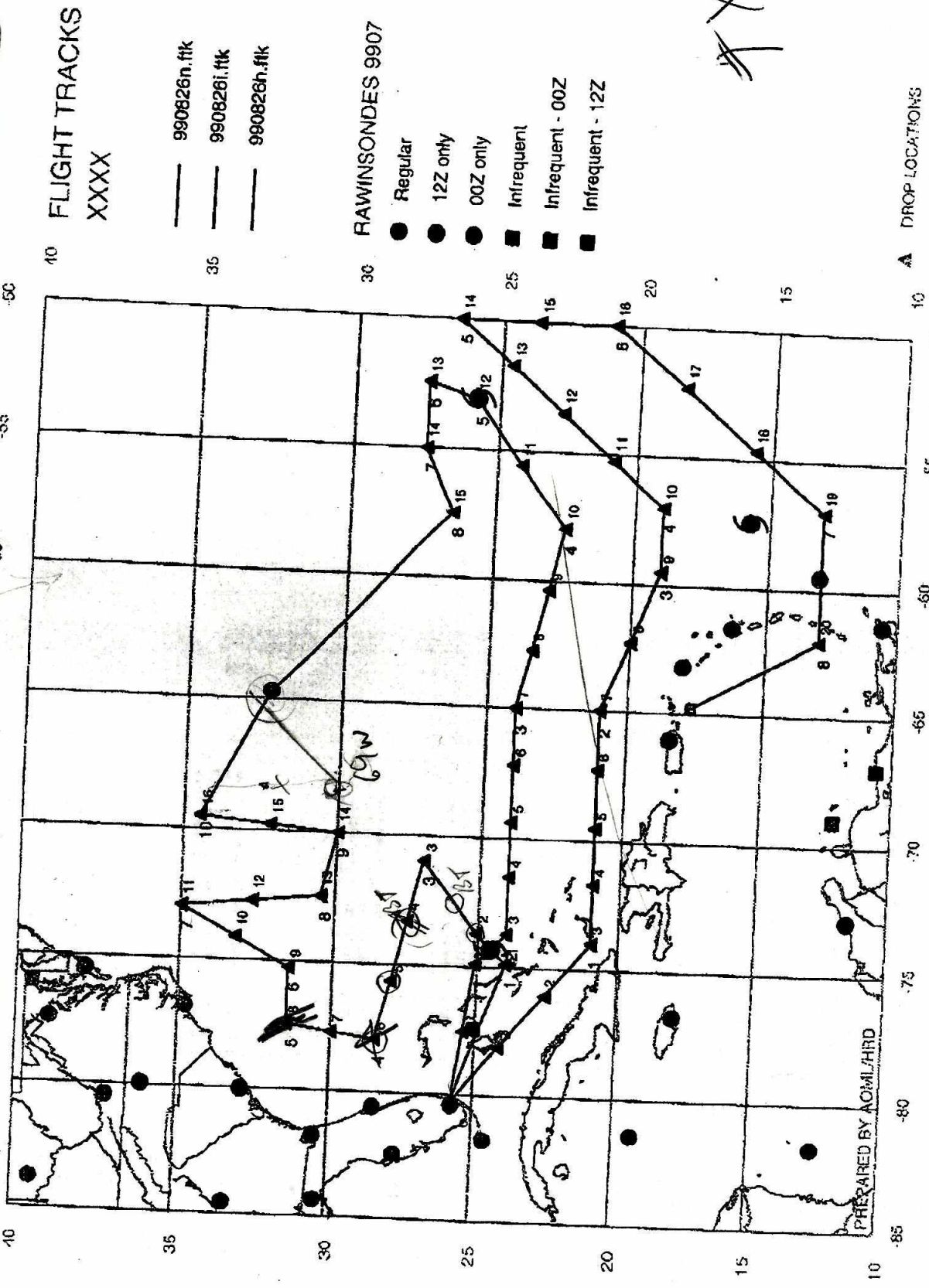


CH 11472-10 00014900



32 15
68 30
30 68 30

33 15 33 25
34 15 34 15 68 30
7330 7030



XXKF

77W and 69W

01007