

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

AOCW/P

Flt ID: H080721	From: KMCF	To: KMCF
Flt No: 08-045	Blk In: 1738Z	ATA: 1729Z
ETD: 0800Z	Blk Out: 0848Z	ATD: 0857Z
ETE:	Blk Time: 8:50 (8.8)	Flt Time: 8:32 (8.5)
Sponsor Org: NATL EMC	Program: HURRICANE	Purpose: 122 Fix and TS Genesis for HRD Dolly

AOC Personnel

AC: CHOY	Sys Eng:
CP: GIRIMONTE	Data Sys: PEEK
Nav: GALLAGHER/ KIDDER	Radar:
FE: BAST/ WADE	GPS/BT: BOSKO
FD: DAMIANO	Cld Phys:
Avionics: OLNEY	

Participating Scientists / Visitors / AOC

Name (Last, First)	Activity on Aircraft	Affiliation
BLACK, M	PI	HRD
LORSOLO, S	ASST PI	HRD

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

06Z pos 21°06'N 315/13 kts
NHC 86°48'W

07Z CANCUN
100/5 1008-8

0904R DOLLY 5K

No Delayed since we
would arrive too soon
for 12Z

~~0800Z~~ 305/12 kts
12Z 22.0N 305/13
88.0W

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

AOCW-2

Flt ID: 14080721 Time Off: 0857Z Time On: ~~08~~ 1729Z

A/C (Take Off)

Wx Station (Take Off)

A/C (Land)

Wx Station (Land)

Pressure

1015.7

30.043 / 1015.9

1016.6

30.043 / 1016.9

Number

Data Disposition / Date / Quality

06/

Flt Lvl Tapes

2

Radar Tapes

Cloud Physics Tapes

Video Tapes

AXBT

12

8 good; 4 bad

AXCP

AXCTD

Dropsondes

7

6 good; 1 Fast Fall; 6 message sent

Video

Forward

Left Side

Right Side

Down

Remarks

Time On

Time Off

Rate

Remarks

Ept 21° 50'
86° 51'NE RT
23 04
87 231555Z
Ray 59 failed Switched to
backups
started working fineTD2 erroneous
at 1720Z31
25
30:07



N42RF ERROR SUMMARY

TS DOLLY



Flight ID: 080721H

<u>Sensor or system</u>	<u>Number or Name</u>
Inertial	INE1
Accelerometer	ACC1
Temperature Probe	TT1
Dew Point Probe	TDM2X (EdgeTech)
Static Pressure	PSF
Dynamic Pressure	PQF1
Vert. Wind	RA159X(GPS)
Constants File	n42_hur08v3.adc
Project Directory	/acdata/2008/hur08

Notes:

Beginning at 172310Z....approaching MacDill AFB for landing.....and ending at block in, there were a number of sporadic one (1) second data gaps attributed to the aircraft data system.

There were no liquid water sensors available for the flight.

The APN-159 (RA159X) radar altimeter output became erroneous at 101041Z and eventually failed completely at approximately 1500Z. Its data was replaced with RINU-1550 blended GPS altitude data beginning at 101041Z and continued until the end of the mission. This data was used to extrapolate sea level pressure from altitude for the 1310Z VORTEX message that was transmitted to NHC.

Measured dewpoint temperature #2 (EdgeTech)...TDM2...exhibited erroneous data from 101921Z - 102240Z. The erroneous data was removed by substituting TDM3(Maycomm/TDL) output using the following equation,

$$TDM2 = TDM3 - 1.53$$

There were two other occurrences of erroneous output from TDM2. From 120215Z – 120500Z TDM2's erroneous data was replaced with data from TDM3 using statistical techniques.

From 172416Z – 172700Z TDM2's erroneous data was removed by substituting TDM3 values with the equation,

$$\text{TDM2} = \text{TDM3} - 3.1$$

All other instruments worked optimally during the flight.

Seven (7) GPS dropsondes were deployed with 6 being good. Their corresponding tempdrop messages were successfully sent to NHC. Twelve (12) AXBTs were deployed internally from the aircraft with 8 good and 4 failures.

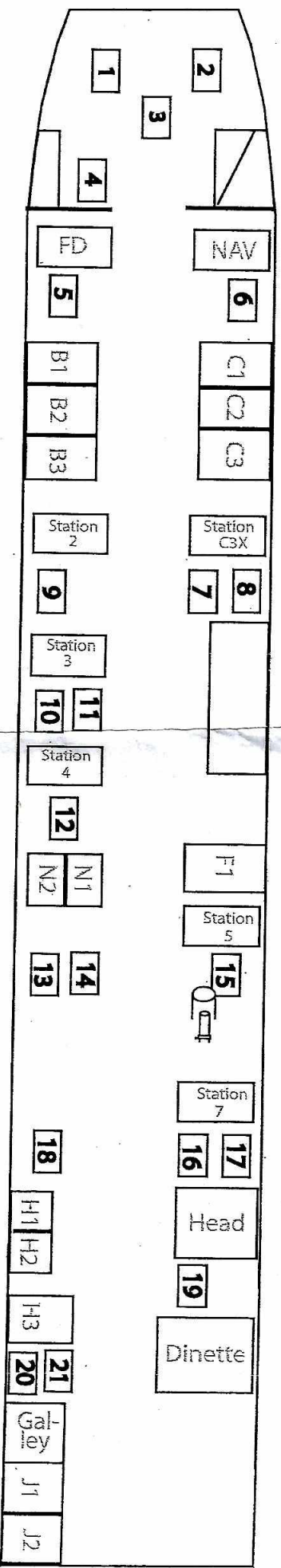
	Takeoff 0857Z	Landing 1729Z
Aircraft Static Pressure	1015.7mb	1016.6mb
Corrected Tower Pressure	1015.9mb	1016.9mb
Flight Director:	A. Barry Damiano	(813) 828-3310 ext. 3073

~~1408~~ 080721 H

Drop 1	1010.8	22.99N	91.01W
Drop 2	1011.7	23.74N	90.52W
Drop 3	1012.2	23.99	91.03W
Drop 4	1011.9	23.49N	91.51W
Drop 5	1012.1	22.74N	92.01W
Drop 6	1013.6	23.99N	93.01W
Drop 7	1014.3	24.41N	92.16W

NOAA AIRCRAFT OPERATIONS CENTER

Flight ID H080721



1. GRIFFIN PILOT
2. CHAY COPILOT
3. WADE FLIGHT ENGINEER
4. STATION 1
5. DANIEL FLIGHT DIRECTOR
6. GALLAGHER NAVIGATOR
7. KIDDER STATION C3X
8. BAST STATION C3X
9. STATION 2
10. BLACK STATION 3
11. L. O. P. S. O. L. O. STATION 3
12. PEEK STATION 4
13. PROJECT SEAT
14. OLNEY PROJECT SEAT
15. OLNEY STATION 5
16. STATION 7
17. STATION 7
18. STATION 8
19. DINETTE
20. GALLEY
21. GALLEY

DATE

7/21/08

SCHEDULED FIX TIME

AIRCRAFT NUMBER

N42

ARWO

WX MISSION IDENTIFICATION

OR

08

VORTEX DATA MESSAGE

A	21/1310 Z	DATE AND TIME OF FIX
B	22 DEG 04 MIN (N) S	LATITUDE OF VORTEX FIX
B	89 DEG 10 MIN E (W)	LONGITUDE OF VORTEX FIX
C	MB NA M	MINIMUM HEIGHT AT STANDARD LEVEL
D	40 KT	ESTIMATE OF MAXIMUM SURFACE WIND OBSERVED
E	060 DEG 100 NM	BEARING AND RANGE FROM CENTER OF MAXIMUM SURFACE WIND
F	130 DEG 56 KT	MAXIMUM FLIGHT LEVEL WIND NEAR CENTER
G	060 DEG 105 NM	BEARING AND RANGE FROM CENTER OF MAXIMUM FLIGHT LEVEL WIND
H	EXTRAP 1007 MB	MINIMUM SEA LEVEL PRESSURE COMPUTED FROM DROPSONDE OR EXTRAPOLATED FROM FLIGHT LEVEL. IF EXTRAPOLATED, CLARIFY IN REMARKS.
I	22 CI 473 M	MAXIMUM FLIGHT LEVEL TEMP/PRESSURE ALTITUDE OUTSIDE EYE
J	23 CI 481 M	MAXIMUM FLIGHT LEVEL TEMP/PRESSURE ALTITUDE INSIDE EYE
K	21 CI 265 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 degrees, i.e., 01-010 to 180; 17-170 to 360. 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 5 NM, outer eye 14 NM.
N	134/01	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; 4 - 400 mb; 3 - 300 mb; 2 - 200 mb; NA - Other.
O	1 1 1 NM	NAVIGATION FIX ACCURACY/METEOROLOGICAL ACCURACY
P	REMARKS SLP EXTRAPOLATED FROM 1500 FT MAX FL WIND 56 KT NE QUAD 1241 Z	

22.5
91.5 XBT

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 scheduled (intermediate) fixes.

26.5 SST

22 56
87 33

DATE	SCHEDULED FIX TIME	AIRCRAFT NUMBER	ARWO
WX MISSION IDENTIFICATION		OR	

(30) 2150 170 125 80 114 VORTS - 45 SFLWR

VORTEX DATA MESSAGE

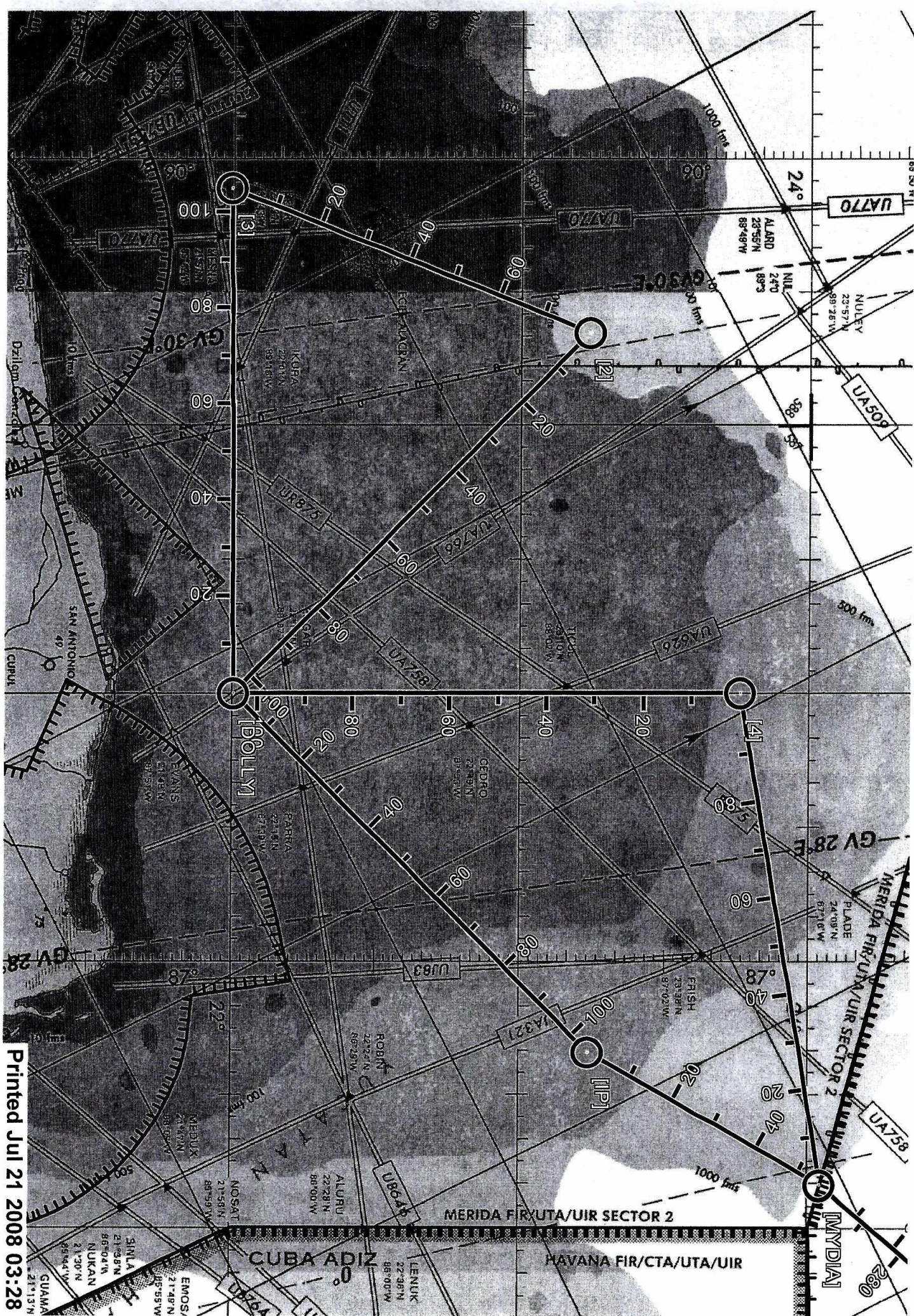
A	211	Z	DATE AND TIME OF FIX
	DEG MIN (N) S		LATITUDE OF VORTEX FIX
B	DEG MIN E (W)		LONGITUDE OF VORTEX FIX
C	MB NA	M	MINIMUM HEIGHT AT STANDARD LEVEL
D		KT	ESTIMATE OF MAXIMUM SURFACE WIND OBSERVED
E	DEG	NM	BEARING AND RANGE FROM CENTER OF MAXIMUM SURFACE WIND
F	123 DEG 60	KT	MAXIMUM FLIGHT LEVEL WIND NEAR CENTER
G	30 DEG 93	NM	BEARING AND RANGE FROM CENTER OF MAXIMUM FLIGHT LEVEL WIND
H		MB	MINIMUM SEA LEVEL PRESSURE COMPUTED FROM DROPSONDE OR EXTRAPOLATED FROM FLIGHT LEVEL. IF EXTRAPOLATED, CLARIFY IN REMARKS.
I	C/	M	MAXIMUM FLIGHT LEVEL TEMP/PRESSURE ALTITUDE OUTSIDE EYE
J	C/	M	MAXIMUM FLIGHT LEVEL TEMP/PRESSURE ALTITUDE INSIDE EYE
K	C/	C	DEWPOINT TEMP/SEA SURFACE TEMP INSIDE EYE
L			EYE CHARACTER: Closed wall, poorly defined, open SW, etc.
M			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	134 11		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	NM	NAVIGATION FIX ACCURACY/METEOROLOGICAL ACCURACY
P	REMARKS SCP EXTRAPOLATED FROM 1500 FT		
	MAX FL WIND	KT	QUAD Z

2150 1006 mb
 88 26 114 92

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 scheduled (intermediate) fixes.

2150 11492
 88 44 1007

Printed Jul 21 2008 03:28



Project: HRD Flight ID: 080721h Flt Dir: BARRY

Mission: TB Daily Flight #: 2 Status: Sys 1 ☒ Sys 2 ☒

Drop #	Sonde Serial Number	Chn. #	Time (Zulu)	Press. Offset	Winds time	Operator Initials	Comments /Status/ Failure Reason	\$	Good ☒
1	060356162	1				WRO	REV FS HRD	HRD	
2	060226167	1	1357	-.9	4		FAST FALL		
3	061329056	3	1413	-.8	4				✓
4	061229151	1	1421	0	4	JB			✓
5	061229016	1	1431	0	4	JB			✓
6	060229150	12	1443	0	2	JB			✓
7	161229127	1	1506	0	2	JB			✓
8	054626149	2	1521	-.6	4	JB			✓
9									
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11									
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32									
33									

\$ Codes A = AOC N = NHC/NWS H = HRD OW = NESDIS

N42RF AVAPS DropSonde Log

B B 12:17

Project: HRD Flight ID: 090721h Flt Dir: BARRY

Mission: TE DAILY Flight #: 2 Status: Sys 1 ☒ Sys 2 ☒

Drop #	Sonde Serial Number	Chn. #	Time (Zulu)	Press. Offset	Winds time	Operator Initials	Comments /Status/ Failure Reason	\$	Good ☒
1	060356162	1				WRO	KEV F'S HRD	HRD	
2	060226167	1	1357	-.9	4	1	FAST FALL - Good LD		
3	061329056	3	1413	-.8	4	1	FMC		✓
4	061229151	1	1421	0	4	JB			✓
5	061229016	1	1431	0	4	JB			✓
6	060229150	2	1443	0	2	JB			✓
7	161229127	1	1506	0	2	JB			✓
8	054626149	2	1521	-.6	4	JB			✓
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11									
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33									

\$ Codes A = AOC N = NHC/NWS H = HRD OW = NESDIS

Per Barry - change all to NWS 10/8/02

0900

345

250 684

130.7

128.21258N 2150089E 015

631-242 2492 180.7

CLEARANCES			
FREQ	ALT	HDG	OTHER
		300.00	
		190	119.65
		7433	Synak
		101K	
		133.35	14
		165.8	MERIDA
		11330	8846 -DAY
		6586	5520 Night
			5550

KMCF
MUNIC
F190

01
135.1

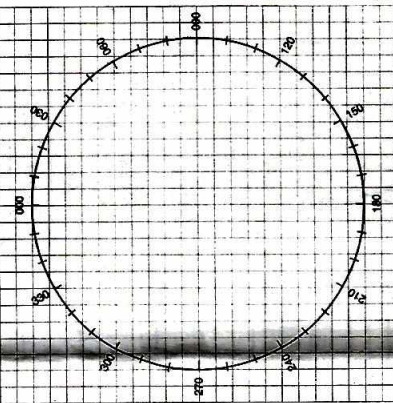
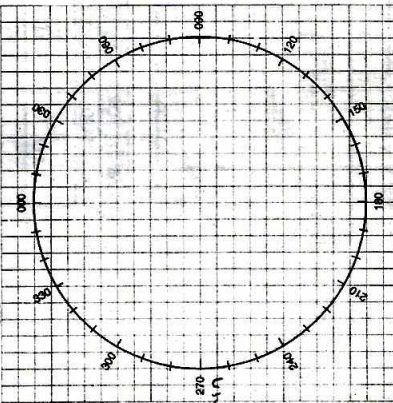
007

0955
COMM

1116
0820
010

MISSION LOG

PAGE 1 OF 1



POSITION REPORT

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

EMERGENCY MESSAGE 11330

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/CFW MF/CFW
243.0 121.5 2182 KHZ 8364 KHZ 500 KHZ

MAYDAY, MAYDAY, MAYDAY
THIS IS NOAA 43, NOAA 412, NOAA 442

- 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	KERR	INS 2 POSITION	KERR	VAR +E==>	TH	DR +R==>	TRK	GS	WD	WS	ALT	TAS	NEXT PT	DIST	TIME	ETA	REMARKS
0829		CN6 START	211 3/4																	
0847		TAXI	RWY 21																	
0852	△																			
0855	T/O																			
0915	△	0653.10 08250	2653 08250	0	2654 08250	0	4.1	236	+5	231	267	215	5	134	246					
0950	△	0653.10 08250	2653 08250	0	2654 08250	0	4.1	236	+5	231	267	215	5	134	246					
1013	△	0653.10 08250	2653 08250	0	2654 08250	0	4.1	236	+5	231	267	215	5	134	246					
1115	△	0653.10 08250	2653 08250	0	2654 08250	0	4.1	236	+5	231	267	215	5	134	246					
1215	△	0653.10 08250	2653 08250	0	2654 08250	0	4.1	236	+5	231	267	215	5	134	246					
1310	△	0653.10 08250	2653 08250	0	2654 08250	0	4.1	236	+5	231	267	215	5	134	246					
1410	△	0653.10 08250	2653 08250	0	2654 08250	0	4.1	236	+5	231	267	215	5	134	246					
1510	△	0653.10 08250	2653 08250	0	2654 08250	0	4.1	236	+5	231	267	215	5	134	246					
1541	OFFSHO																			
1601	△																			

130 1112 2492 180.7