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

AOC WP

Flt ID: 030914I	From: TISX	To: TISX
Flt No: 03 - 79	Blk In: 2220	ATA: 2217 Z
ETD: 15Z	Blk Out: 1448 Z	ATD: 1455 Z
ETE: 7+00	Blk Time: 7+32 7.5	Flt Time: 7+22 7.4
Sponsor Org: [redacted] HRD	Program: CBLAST [redacted]	Purpose: HURR ISABEL

AOC Personnel

AC:	TEBEEST, R ✓	Sys Eng:	TONG, R ✓
CP:	TENNESEN, D ✓ / STRONG, T	Data Sys:	LYNCH, T ✓
Nav:	[redacted] / BRAICOB, D ✓	Radar:	
FE:	BLACK ✓ / FLOYD, D / CORRY, J	GPS/BT:	SMITH, J ✓
FD:	FLAHERTY, P ✓ / DAMIANO, A ✓	Cld Phys:	
Avionics:	SANS SOUCI, D ✓		

Participating Scientists / Visitors / AOC

Name (Last, First)	Activity on Aircraft	Affiliation
BLACK, M ✓	PI	HRD
ABERSON, S ✓	RADAR	HRD
LAKSHMI, J ✓	VIS SCI	SCRIPS
ULHORN, E ✓	RADAR	HRD
FRENCH, J ✓	VIS SCI	NOAA/ARL
★ DRENNAN, W ✓	VIS SCI	HRD
★ VAN FLEET ✓	PRESS	FOX-ORLANDO

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

2901 II TEAL 57 1145 Z
INIT 23.3 65.2 140 KT 938 mb
12 23.8 66.8 140 KT
IP - 2205 / 6635
2400 6717 Geometric ©

DEWPOINT 2 OUT
TURN OFF 1656
DEWPOINT 2 BACKUP 1704

ENGINE 3 F/O'D 2021

9 1642 Z 23 47 N 6645 W

6635

813-831-5358

U.S. Dept. of Commerce / NOAA / Aircraft Operations Center — AOCW-2

lt ID: 030914I	Time Off: 1449 Z	Time On: 2217 Z

	A/C (Take Off)	Wx Station (Take Off)	A/C (Land)	Wx Station (Land)
Pressure	1013.1	29.96	1010.2	29.89

	Number	Data Disposition / Date / Quality
lt Lvl Tapes	2	
adar Tapes	1	
loud Physics Tapes		
ideo Tapes	4	
XBT		
XCP		
XCTD		
ropsondes	12	
SONOBUOY's	3	

Video

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

emarks

NOAA P-3 N43RF
CBLAST- HURRICANE ISABEL
INVESTIGATION FLIGHT 3

Flight ID: 030914I

Sensor or system	Number or Name
INE	2
Accelerometer	2
Temperature Probe	1
Dew Point Probe	1 (General Eastern)
Altitude (for vertical wind)	Radar Altimeter 159
Static Pressure	Rosemount Fuselage
Dynamic Pressure	Rosemount Fuselage 1281
Time Source	Micro 99
Constants File	CO3033.CON

Notes:
MISSION WAS ABORTED AT 2021 DUE TO PROBLEMS WITH ENGINE 3.

There were several time/data gaps during this flight which occurred during the times 212411-212420, 212931-212940, 213241-213250, 213341-213350, 213411-213420, 213441-213450, 213511-213520, 213541-213550, 213611-213620, and 213641-213650.

RA-232 was substituted for RA-159 from 145201-145747 (take-off), 171246-173036, and 220238-221900 (landing) due to spiking. Due to a large PQAF (Dynamic Attack Pressure) - PQF1 (Dynamic Pressure) separation caused by low-level flying , PQF1 was substituted into PQAF with an offset of 2.1 to minimize this difference from 173211-202154.

All other instruments worked optimally during the flight. However, several times during the flight, the dewpoint temperature exceeded the ambient temperature resulting in a RH >> 100%. This was likely due to heavy rain (as reflected in the J-W Liquid Water Sensor data), a wet-bulb effect on the total temperature sensor, and/or an artificial warming of the dewpoint sensor as it tried to remove excess moisture. No corrections were made during these events.

The 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 speeds, respectively, computed using Dave Jorgensen's vertical wind algorithm.
It is recommended that these values be used for vertical wind analysis.

	Takeoff	**Landing**
Aircraft Static Pressure	1013.1 mb	1010.2 mb
Corrected Tower Pressure	1012.2 mb	1009.8 mb

Flight Director: Paul Flaherty (813) 828-3310 ext. 3094

DATE	SCHEDULED RX TIME	AIRCRAFT NUMBER	FLIGHT DIRECTOR

WX MISSION IDENTIFIER	OB NUMBER

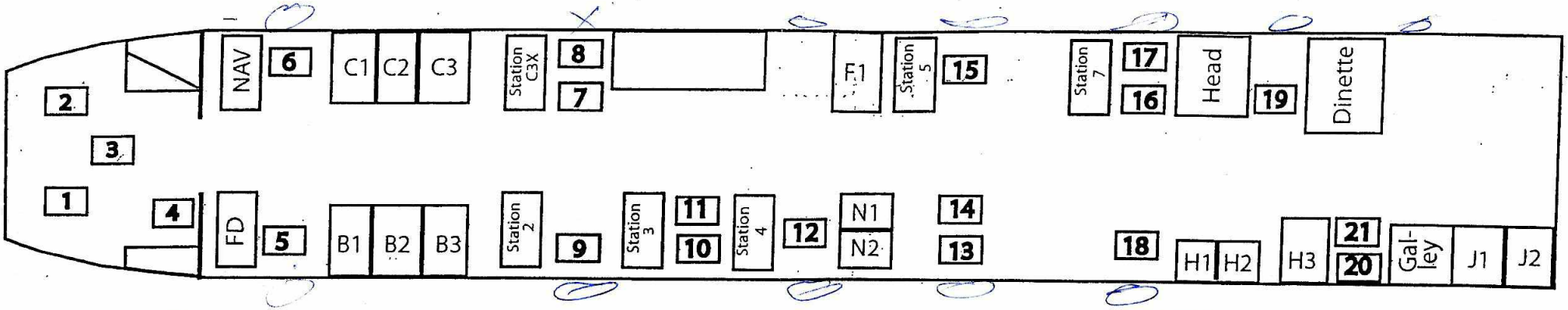
VORTEX DATA MESSAGE

A	14 / 1642 Z	DATE and TIME of FIX
B	23 DEG 47 MIN (N) S	LATITUDE of FIX
	66 DEG 45 MIN (W) E	LONGITUDE of FIX
C	N/A MB N/A M	MINIMUM HEIGHT of STANDARD LEVEL
D	N/A KT	ESTIMATE of MAXIMUM SURFACE WIND OBSERVED
E	N/A DEG N/A NM	BEARING and RANGE FROM CENTER of MAXIMUM SURFACE WIND
F	252 DEG 132 KT	MAXIMUM FLIGHT LEVEL WIND NEAR CENTER
G	171 DEG 23 NM	BEARING and RANGE FROM CENTER OF MAXIMUM FLIGHT LEVEL WIND
H	N/A MB	MINIMUM SEA LEVEL PRESSURE COMPUTED FROM DROPSONDE OR EXTRAPOLATED FROM FLIGHT LEVEL. IF EXTRAPOLATED, CLARIFY IN REMARKS.
I	6 C / 3556 M	MAXIMUM FLIGHT LEVEL TEMP / PRESSURE ALTITUDE OUTSIDE EYE
J	16 C / 4018 M	MAXIMUM FLIGHT LEVEL TEMP / PRESSURE ALTITUDE INSIDE EYE
K	7 C / C	DEWPOINT TEMP / SEA SURFACE TEMP INSIDE EYE
L	CLOSED WALL	EYE CHARACTER: Closed wall, poorly defined, open SW, etc.
M	C45	EYE SHAPE/ORIENTATION/DIAMETER: Code eye shape as: C - Circular; CO - Concentric; E - Elliptical. Transmit orientation of the major axis in tens of degrees, i.e., 01-010 to 190; 17 - 170 to 350. Transmit diameter in nautical miles. *Examples*: C8= Circular eye 8 miles in diameter. E09/15/5=Elliptical eye, major axis 090-270, length of major axis 15 NM, length of minor axis 5 NM. CO8-14=Concentric eye, diameter inner eye 8 NM, outer eye 14 NM.
N	12345/N/A	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; 1-1500 ft; 9-925mb; 8-850mb; 7-700mb; 5-500mb; 4-400mb; 3-300mb; 2-200mb; NA-Other
O	/ / NM	NAVIGATION FIX ACCURACY / METEOROLOGICAL ACCURACY
P	REMARKS MAX FL WIND 132 KT S QUAD 1637 Z	

INSTRUCTIONS: Items A thru 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 Flight Director's discretion for unscheduled intermediate) fixes.

NOAA AIRCRAFT OPERATIONS CENTER

Flight ID 030914 I



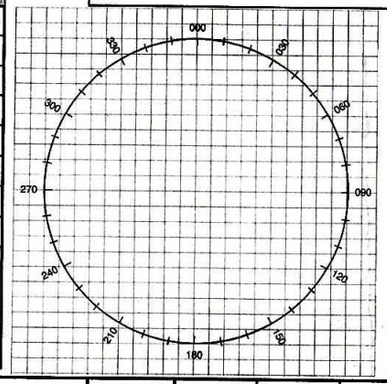
1. TENNESEN — PILOT
2. TEBEEST — COPILOT
3. BAST — FLIGHT ENGINEER
4. BLACK — STATION 1
5. FLAHERTY — FLIGHT DIRECTOR
6. NEWMAN — NAVIGATOR
7. DAMIANO — STATION C3X
8. FRENCH — STATION C3X
9. ULHORN — STATION 2
10. ABERSON — STATION 3
11. SMITH — STATION 3
12. LYNCH — STATION 4
13. [redacted] VAN FLEET — PROJECT SEAT
14. STRONG — PROJECT SEAT
15. TONG — STATION 5
16. LASWELL — STATION 7
17. [redacted] DRENNAN — STATION 7
18. SANS SOUCI — STATION 8
19. FLOYD — DINETTE
20. _____ — GALLEY
21. _____ — GALLEY

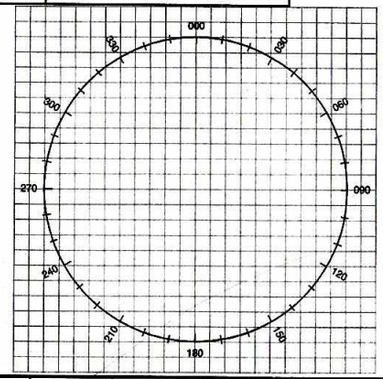
K : 1353Z 200/11 V10 F2.2 30/25 29.96 VISRW28

TEAL 57 TEAL 45 NOAA42 C01712

CLEARANCES				
FREQ	ALT	HDG	OTHER	
134.3		RW4	SQ4617	CAF

MISSION LOG PAGE 1 OF 2





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

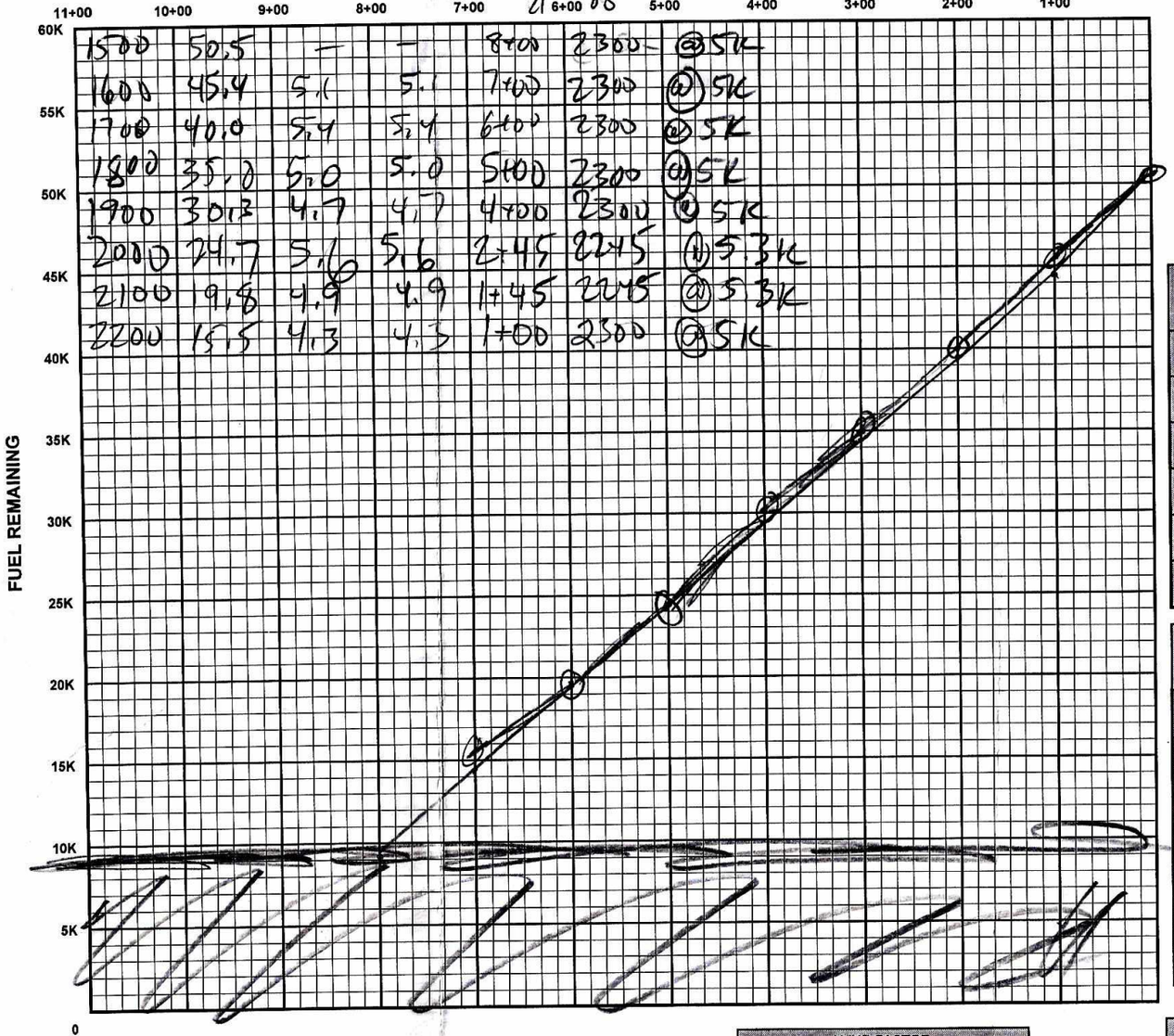
MAYDAY, MAYDAY, MAYDAY 43 THIS IS NOAA ____, NOAA 43, NOAA 43

- 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 19 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==>	TRK	GS	WD	WS	ALT	TAS	NEXT PT	DIST	TIME	ETA	REMARKS
1043	ENG	N	N		N																
1048	TAXI	W	W		W																
1048	BLOCK																				
1054	T/O																				
1500	✓✓	18-01.2 65-08.7	18-01.4 65-08.6	-.2 +.1	18-01.1 65-08.6	+.1 +.1			335	2R	337	273	178	22	5K	247					315/30 COY
1600	△	20-45.7 66-18.5	20-46.8 66-15.9	-1.1 +1	20-45.9 66-15.7	-.2 -.2			348	6R	354	257	238	20	11.5K	252					MYR 11396 515 SEC ✓
1700	△	23-37.8 66-43.5	23-40.5 66-43.3	-2.7 +.2	23-38.7 66-43.4	-.9 +.1			094	4L	090	305	250	60	13.3K	246					
1800	△	25-25.1 66-47.6	25-06.1 66-47.3	-1.0 +.3	25-03.8 66-47.8	+1.3 -.2			350	20L	330	270	095	100	8.5K	232					
1900	△	25-10.1 68-13.9	25-12.5 68-13.7	-2.4 +.2	25-09.7 68-14.5	+.4 -.6			327	17L	310	193	030	75	1.2K	220					
2000	△	24-23.2 68-43.6	24-28.7 68-44.7	-5.5 +1.1	24-25.7 68-43.4	-2.0 +.2			076	15R	091	220	005	65	.9K	228					
2015	#3	ENG FLAMEOUT																			
2100	△	21-56.2 67-36.3	22-01.0 67-33.7	-4.8 +2.6	21-56.5 67-36.5	-.3 -.2			158	11L	147	257	250	50	8.5K	247					
2200	△	18-14.1 65-03.7	18-18.0 65-01.4	-3.9 +2.3	18-12.8 65-04.5	+1.3 -.8			159	4L	155	246	220	20	7K	261					
2217	LAND	17-42.0 64-47.6	17-48.2 64-49.3	-6.2 +3.3	17-43.1 64-47.8	-1.1 -.2															

TRAIL LEFT

RANGE CONTROL GRAPH



1500	50.5	—	—	8+00	2300	@5K
1600	45.4	5.1	5.1	7+00	2300	@5K
1700	40.0	5.4	5.4	6+00	2300	@5K
1800	35.0	5.0	5.0	5+00	2300	@5K
1900	30.3	4.7	4.7	4+00	2300	@5K
2000	24.7	5.6	5.6	2+45	2245	@5.3K
2100	19.8	4.9	4.9	1+45	2245	@5.3K
2200	15.5	4.3	4.3	1+00	2300	@5K

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

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

ENROUTE FUEL	
ENROUTE TIME	8+00
ENROUTE FUEL (6K, 5K, 4.5K RULE)	38K
RESERVE AT DESTINATION	10K
REQUIRED RAMP	48K
ACTUAL RAMP FUEL	50.5K

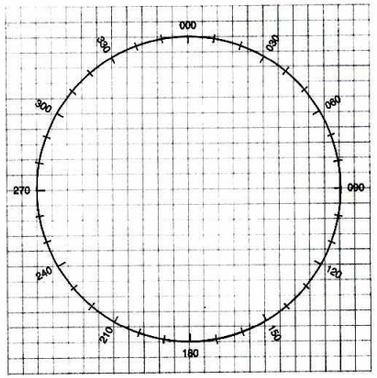
TACTICAL (OFFSTA TO DESTINATION)	4 ENG	3 ENG
DISTANCE (OFFSTA TO DEST)		
ENROUTE TIME (OFFSTA TO DEST)		
BURN RATE (LBS/HR)	4500	5500
ENROUTE FUEL REQUIRED		
RESERVE AT DESTINATION		
FUEL AT OFFSTA		

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)			
CE			
- VAR			
= DEV			

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



"F" FACTOR	PRESS ALT	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

TRUE AIRSPEED CROSS-CHECK							
TIME	IAS	PRESS ALT	"F" FACTOR	EAS	OAT	TAS	ITAS
1602	212	11.5	X	X	+16	252	250

NOAA FORM 56-49
(2-95)

MISSION PREFLIGHT LOG

DESTINATION	MISSION	NAVIGATOR	AIRCRAFT COMMANDER	FLIGHT DIRECTOR	SCHEDULED / ACTUAL TAKEOFF Z	DATE OF TAKEOFF
TISX	ISABEL #3 N43	LT BRAUB	LCDR TEBEEST	DAMIANO	1500	14 SEP 03

	WP	LAT / LON	RTE	MH	VAR +E==>	TH	DR +R==>	TRK	GS	WD	WS	ALT	TAS	LEG / TOT DIST	LEG / TOT TIME	PROP ETA	ETA	ATA	REMARKS
TISX	1	N 17-42 W 64-48						331				FL210	250	165 165	+35 +35				→ VERMO
VERMO	2	20-07.6 66-12.9						350				✓	✓	120 285	+30 1+05				→ ID
ID	3	22-05 66-35						360				✓	✓	100 385	+25 1+30				→ EYE
EYE	4	23-45 66-35						175				✓	✓	220 220	+55 +55				→ VERMO
VERMO	2	20-07.6 66-12.9						151				✓	✓	165 385	+40 1+35				→ TISX
TISX	1	17-42 64-48																	

INS PERFORMANCE

	INS 1	INS 2
BEGIN ALIGN TIME	1233	1233
ALIGN STATUS (0-5)	0	0
END NAV TIME	2220	2220
START NAV TIME	1430	1430
DELTA T	7+50	7+50

TERMINAL ERRORS

	INS 1	INS 2
DELTA LAT	+6.2	+7.1
DELTA LON	+3.3	-.2
RGS	9	10
RADIAL ERROR	7	1

REMARKS

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

92X

MISSION LOG PAGE 2 OF 2

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

TIME	FIX TYPE	POSITION	INS 1 POSITION	K ERR	INS 2 POSITION	K ERR	MH	VAR +E==>	TH	DR +R==>	TRK	GS	WD	WS	ALT	TAS	NEXT PT	DIST	TIME	ETA	REMARKS
1517	START	CAL	308°T																		
1625	1645	4							350°												
1646	1645	4 SONDES	1 BUOY						355°												24-00 66-42 EYE
1721		4 SONDES							355°												
STARTED		250°T	18122	30 NM																	

65-80 0104 2510 68-40 1830