

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

Flt ID: 040914I	From: KMCF	To: KMCF
Flt. No: 04-065	Blk In: 0441z	Time On: 0432z
ETD: 1930	Blk Out: 1909z	Time Off: 1920z
ETE: 9+00	Blk Time: 9+32 9.5 Hrs	Flt Time: 9+12 9.2 Hrs
Sponsoring Org: NOAA/NHC	Program: Hurr. 2004	Purpose: H. IVAN

AOC Flight Crew

Aircraft Commander: TE BEEST, R	Data System: LYNCH, T
Co-Pilot: STRONG, T NELSON, M	AVAPS: SMITH, J
Navigator: SIEGEL, P ADLER, J	System Eng:
Flight Eng: FLOYD, D KLIPPEL, J	AA: M ^S FADDEN, J ✓
Flight Director: SHEPHERD, T	AA:
Avionics: SANS SOUICI, D	Crew Chief:

Participating Scientists / Visitors

Name (Last, First)	Activity on Aircraft	Affiliation
BLACK, M	PI	NOAA/HRD
Dodge, P	PI	I
WALSH, E	SRA	NASA
WAGNER, B	DBS	FEMA
CAMPO-FLORES, A.	MEDIA	NEWSWEEK

Remarks (Storm Name, Mission ID, Recco Times, Fix Times)

Storm Name: IVAN
 Mission ID: NOAA3 3609A IVAN

Recco Times
 1-1935
 2112
 2346

Fix #	Fix Time
1	2046 2Z
2	2201
3	2319 00Z
4	0045
5	0204
6	0308 03Z

#500 for Doc

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

Flight ID: 040914I Time Off: 1920 Time On: 0432

A/C - Takeoff	Wx Station - Takeoff	A/C - Land	Wx Station - Land
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Pressure	<u>1011.9</u>	<u>29.92</u>	<u>1011.5</u>	<u>29.90</u>
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	Number	Data Disposition / Date / Quality
Flight Level Tapes	<u>2</u>	
Radar Tapes	<u>1</u>	
Cloud Physics Tapes / CDs	<u>/</u>	
Video Tapes	<u>4</u>	
Dropsondes	<u>35</u>	Good: Bad:
AXBT	<u>0</u>	
AXCP	<u>1</u>	
AXCTD		

Remarks:

Mission Ivan - SFMR + Fix Flt ID 0409141

SED Crew Smith, Sans Souci,

Pre-Flight 1710 Take-Off 19:20 Landing 04:32

		System			Pre-Flight	In-Flight	Post-Flight				
NAV	GPS	FM:			DS		LAT	LO	CS	RE	
	INE #1	Time On: 1710	Aligned to:		DS		-15.6	18.7	5	18	
	INE #2	Time On: 1710	Aligned to:		DS		19.6	-6.1	2	11	
	Diff GPS				TL						
RADAR	MARS Data	Start	Stop	Ready?	HRD?		# DATs ? 1 Given To: Dodge				
	MARS	19:31	04:22	TL	Y/N						
	MARS Data / Tape Status				LPRec	TARec	EOFs				
	MARS LU8	Clear		TL							
	MARS LU9	Clear		TL							
	RADAR R/T SN Tail	202/102	LF 10Z	TL	Mod Switches	ON	Mod Switches	OFF			
PMS	FSSP Ref VDC:	Covers	OFF				Power	OFF			
	Cloud Mono	Covers	OFF				Covers	ON			
	CIP	Covers	OFF				Covers	ON			
	SEA Data DAT	Start	Stop	Ready?	#DATS	Errors	Disk Write	Given To: —			
	DAT	Clean?					Y / N				
TEMP		Cal High	Cal Low				Cal High	Cal Low			
	Temp #1			TL			30.7	-30.2			
	Temp #2			TL			Power	OFF			
	Temp #3			TL			Power	OFF			
PRES	Dewpoint	#1 #2 #3 (TDL)		TL			Power	OFF			
	Attack / Slip Angle	AP LAP BP DBP		TL			Power	OFF			
	Differential	P01 P02 P03 P04		TL			Power	OFF			
FLTLVL	Absolute	PS PS CBPS		TL			Power	OFF			
	Aprn-159 SN:	06-024		TL			Power	OFF			
	Aprn-232 SN:	1761		TL			Power	OFF			
	Liquid Water	J&W K76		JS	28V WOW: ON ?		Power	OFF			
	Radiometer	02 657			28V WOW: ON ?		Power	OFF			
RAMS	RAMS Data	Start	Stop	Ready?	Errors 8:	Errors 9:	# DATs ? 2 Given To: Slop				
	CPU: A (B)	19:07	04:41	TL		0	Power	OFF			
	RAMS Data / Tape Status				Slow Rec	Fast Rec	Disk Records: 3453				
	RAMS LU8	Clear		TL	3453	34416					
	RAMS LU9	Clear		TL	3453	34416					
	Flight Director Laptop			DS			Power	OFF			
	Network			NI							
	ASDL Mission #:	36094	Name: IVAN		Freq:	Block:	Power	OFF			
MISC	C.I. Printer	Start	Stop	Ready?	Paper Bin Stores		Given To:				
	PRATE: 10	19:07	04:41	TL	0%	25% 50% 75% 100%	Power	OFF			
	Exterior Walk Around	Plugs	Covers	JS			Plugs	Covers			
	SATCOM	(W/S) (Inmarsat)	(GlobalStar)	DS			Power	OFF			
	AXBT Internal	# Loaded:		NI			# Launched:	—			
	AXBT External	# Loaded:		NI	28V WOW		# Launched:	—			
USERS	AVAPS	# On Board: 56		JS			# Dropped:	—			
	Video Cameras	Start	Stop	Ready?	Cameras	Mode	# Tapes ? 4 Given To: Dodge				
	VHS SVHS	19:07	04:42	TL	NOGRD	2 / 12	Lens Cap ?:				
	FCU	-B-C-D-		TL			UPS	OFF			
USERS	SFMR	ABD	A00								
	HRD Work Station						Accelerometers				
	NASA SRA						#1 (2 G):	0205			
	ARL BAT Probe, SST & IRGA			NI			#2 (2.5 G):	0687			
	UW PDA			NI			#3 (3 G):	5967			
Scripps MASS, Laser Alt, IR Cam & Sono			NI			#4 (3.5 G):	2892				
RSMAS Licor			TL								



**NOAA P-3 N43RF
CBLAST 2004
FLIGHT #11**

Flight ID: I040914

Sensor or system

Number or Name

INE.....	2
Accelerometer.....	2
Temperature Probe.....	1
Dew Point Probe.....	2
Altimeter (for vertical wind).....	RA-159
Static Pressure.....	Rosemount (fuselage)
Dynamic Pressure.....	Rosemount (fuselage)
Time Source.....	Micro 99
Constants File.....	CO3043.con

Local Met. Data: Not copied at takeoff

Take off: 1920Z

Land: 0432Z

The RA-232 was substituted for the RA-159 during take off and landing due to spiking (T.O. 191701-192106; Land 043103-043500).

The RA-159 had spikes that were removed and patched (221224-2211227; 221826-221830; 224236-224239).

There were data gaps noted: 204802-204810; 233121-233129; 233201-233218; 233331-233333; 013712-013718; 013752-013755; 013850-013855; 013902-013905; 014106-014110. There were singular data points reported missing: 020400, 025150, 030500, 030530, 031200.

The Johnson-Williams liquid water sensor was operative for the entire flight.

There were times during heavy precipitation events (e.g. eye wall penetrations) when the dew point exceeded ambient temperature yielding a RH of greater than 100%. This is probably due to a wet bulb effect on the total temperature probe and/or the dew pointer over heating while trying to remove excess moisture. In these instances, no corrections were attempted.

The aircraft INE positions were re-navigated with respect to GPS.

SPECIAL NOTE: Locations 80, 81, and 82 of record 5 in the standard data contain vertical ground speed, vertical air speed, and vertical wind speed computed using Dr. Dave Jorgensen's vertical wind algorithm. It is recommended that these values be used for vertical wind analysis.

	Take off	Land
Aircraft Static Pressure	1011.9 mb	1011.5 mb
Corrected Tower Pressure	1013.2 mb	1012.5 mb

Flight Director: Tom Shepherd
813-828-3310 x3053

#1

DATE	9/14/04	SCHEDULED RX TIME	21Z	AIRCRAFT NUMBER	N43	FLIGHT DIRECTOR	SUSPENDED
WX MISSION IDENTIFIER						OB NUMBER	
NOAA3 3609A IVAN						6	
VORTEX DATA MESSAGE							
A	141 2046Z	DATE and TIME of FIX ✓					
B	24 DEG 11 MIN (N) S	LATITUDE of FIX ✓					
	86 DEG 45 MIN (W) E	LONGITUDE of FIX ✓					
C	700 MB 2488 M	MINIMUM HEIGHT of 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	124 DEG 147 KT	MAXIMUM FLIGHT LEVEL WIND NEAR CENTER ✓					
G	37 DEG 24 NM	BEARING and RANGE FROM CENTER OF MAXIMUM FLIGHT LEVEL WIND ✓					
H	929 MB	MINIMUM SEA LEVEL PRESSURE COMPUTED FROM DROPSONDE OR EXTRAPOLATED FROM FLIGHT LEVEL. IF EXTRAPOLATED, CLARIFY IN REMARKS. ✓					
I	11 C 13060M	MAXIMUM FLIGHT LEVEL TEMP / PRESSURE ALTITUDE OUTSIDE EYE ✓					
J	18 C 13001 M	MAXIMUM FLIGHT LEVEL TEMP / PRESSURE ALTITUDE INSIDE EYE ✓					
K	16 C 1 NA C	DEWPOINT TEMP / SEA SURFACE TEMP INSIDE EYE ✓					
L	OPEN SW	EYE CHARACTER: Closed wall, poorly defined, open SW, etc. ✓					
M	C 45	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	12345/7	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	111 NM	NAVIGATION FIX ACCURACY / METEOROLOGICAL ACCURACY					
P	REMARKS						
	MAX FL WIND 147 KT NE QUAD 2039 Z SLP. FROM DROPSONDE						

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

#2

DATE 9/14/04	SCHEDULED RX TIME /	AIRCRAFT NUMBER N43	FLIGHT DIRECTOR SHEPHERD
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WX MISSION IDENTIFIER NDA A3 3609A IVAN	OB NUMBER 14
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VORTEX DATA MESSAGE

A	1412201Z	DATE and TIME of FIX
B	24 DEG 21 MIN N S	LATITUDE of FIX
	86 DEG 51 MIN W E	LONGITUDE of FIX
C	700 MB 2487 M	MINIMUM HEIGHT of 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	233 DEG 126 KT	MAXIMUM FLIGHT LEVEL WIND NEAR CENTER
G	144 DEG 22 NM	BEARING and RANGE FROM CENTER OF MAXIMUM FLIGHT LEVEL WIND
H	929 MB	MINIMUM SEA LEVEL PRESSURE COMPUTED FROM DROPSONDE OR EXTRAPOLATED FROM FLIGHT LEVEL. IF EXTRAPOLATED, CLARIFY IN REMARKS.
I	17 C 13047 M	MAXIMUM FLIGHT LEVEL TEMP / PRESSURE ALTITUDE OUTSIDE EYE
J	18 C 13080 M	MAXIMUM FLIGHT LEVEL TEMP / PRESSURE ALTITUDE INSIDE EYE
K	15 C 1 NA C	DEWPOINT TEMP / SEA SURFACE TEMP INSIDE EYE
L	OPEN SE	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	12345/7	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	11 / NM	NAVIGATION FIX ACCURACY / METEOROLOGICAL ACCURACY

P REMARKS
 MAX FL WIND 147 KT NEQUAD 2039Z
 SLP FROM DROPSONDE

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

#3

DATE 9/14/04	SCHEDULED RX TIME 00Z	AIRCRAFT NUMBER N43	FLIGHT DIRECTOR SHEPHERD
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WX MISSION IDENTIFIER NOAA3 3609A IVAN	OB NUMBER 25
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VORTEX DATA MESSAGE

A	1412319Z	DATE and TIME of FIX
B	24 DEG 33 MIN N S	LATITUDE of FIX
	86 DEG 56 MIN W E	LONGITUDE of FIX
C	700 MB 2491 M	MINIMUM HEIGHT of 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	354 DEG 116 KT	MAXIMUM FLIGHT LEVEL WIND NEAR CENTER
G	258 DEG 19 NM	BEARING and RANGE FROM CENTER OF MAXIMUM FLIGHT LEVEL WIND
H	928 MB	MINIMUM SEA LEVEL PRESSURE COMPUTED FROM DROPSONDE OR EXTRAPOLATED FROM FLIGHT LEVEL. IF EXTRAPOLATED, CLARIFY IN REMARKS.
I	13 C 13054 M	MAXIMUM FLIGHT LEVEL TEMP / PRESSURE ALTITUDE OUTSIDE EYE
J	19 C 12992 M	MAXIMUM FLIGHT LEVEL TEMP / PRESSURE ALTITUDE INSIDE EYE
K	16 C 1 NA C	DEWPOINT TEMP / SEA SURFACE TEMP INSIDE EYE
L	OPEN SW	EYE CHARACTER: Closed wall, poorly defined, open SW, etc.
M	C43	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	12345/7	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	111 NM	NAVIGATION FIX ACCURACY / METEOROLOGICAL ACCURACY

P	REMARKS MAX FL WIND 147 KT NE QUAD 2039 Z SLP. FROM DROPSONDE
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#4

DATE 9/14/04	SCHEDULED RX TIME —	AIRCRAFT NUMBER N43	FLIGHT DIRECTOR SHEPHERD
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WX MISSION IDENTIFIER NOAA3 3609A IVAN	OB NUMBER 33
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VORTEX DATA MESSAGE

A	151 0045Z	DATE and TIME of FIX
B	24 DEG 45 MIN (N) S	LATITUDE of FIX
	87 DEG 03 MIN (W) E	LONGITUDE of FIX
C	700 MB 2502M	MINIMUM HEIGHT of 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	105 DEG 143 KT	MAXIMUM FLIGHT LEVEL WIND NEAR CENTER
G	007 DEG 23 NM	BEARING and RANGE FROM CENTER OF MAXIMUM FLIGHT LEVEL WIND
H	930 MB	MINIMUM SEA LEVEL PRESSURE COMPUTED FROM DROPSONDE OR EXTRAPOLATED FROM FLIGHT LEVEL. IF EXTRAPOLATED, CLARIFY IN REMARKS.
I	17 C 13047 M	MAXIMUM FLIGHT LEVEL TEMP / PRESSURE ALTITUDE OUTSIDE EYE
J	18 C 13048 M	MAXIMUM FLIGHT LEVEL TEMP / PRESSURE ALTITUDE INSIDE EYE
K	16 C 1 NAC	DEWPOINT TEMP / SEA SURFACE TEMP INSIDE EYE
L	OPEN W-SIDE	EYE CHARACTER: Closed wall, poorly defined, open SW, etc.
M	C43	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	12345/7	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	11 / NM	NAVIGATION FIX ACCURACY / METEOROLOGICAL ACCURACY

P	REMARKS MAX FL WIND 147 KT NE QUAD 2039 z SLP FROM DROPSONDE
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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

#5

DATE	9/14/04	SCHEDULED RX TIME	—	AIRCRAFT NUMBER	N43	FLIGHT DIRECTOR	SHEPHERD
WX MISSION IDENTIFIER						OB NUMBER	42
NOAA 3 3609A IVAN							
VORTEX DATA MESSAGE							
A	1510204Z	DATE and TIME of FIX					
B	24 DEG 56 MIN (N) S	LATITUDE of FIX					
	87 DEG 11 MIN (W) E	LONGITUDE of FIX					
C	700 MB 2518 M	MINIMUM HEIGHT of 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	216 DEG 135 KT	MAXIMUM FLIGHT LEVEL WIND NEAR CENTER					
G	118 DEG 20 NM	BEARING and RANGE FROM CENTER OF MAXIMUM FLIGHT LEVEL WIND					
H	932 MB	MINIMUM SEA LEVEL PRESSURE COMPUTED FROM DROPSONDE OR EXTRAPOLATED FROM FLIGHT LEVEL. IF EXTRAPOLATED, CLARIFY IN REMARKS.					
I	11 C 13058 M	MAXIMUM FLIGHT LEVEL TEMP / PRESSURE ALTITUDE OUTSIDE EYE					
J	18 C 13056 M	MAXIMUM FLIGHT LEVEL TEMP / PRESSURE ALTITUDE INSIDE EYE					
K	16 C 1 NA C	DEWPOINT TEMP / SEA SURFACE TEMP INSIDE EYE					
L	OPEN S	EYE CHARACTER: Closed wall, poorly defined, open SW, etc.					
M	C43	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	12345/7	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	111 NM	NAVIGATION FIX ACCURACY / METEOROLOGICAL ACCURACY					
P	REMARKS						
	MAX FL WIND 147 KT NE QUAD 2039 Z SLP. FROM DROPSONDE						

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

#6

DATE 9/15/04	SCHEDULED RX TIME 03Z	AIRCRAFT NUMBER N43	FLIGHT DIRECTOR SHEPHERD
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WX MISSION IDENTIFIER NOAA3 3609A IVAN	OB NUMBER 47
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VORTEX DATA MESSAGE

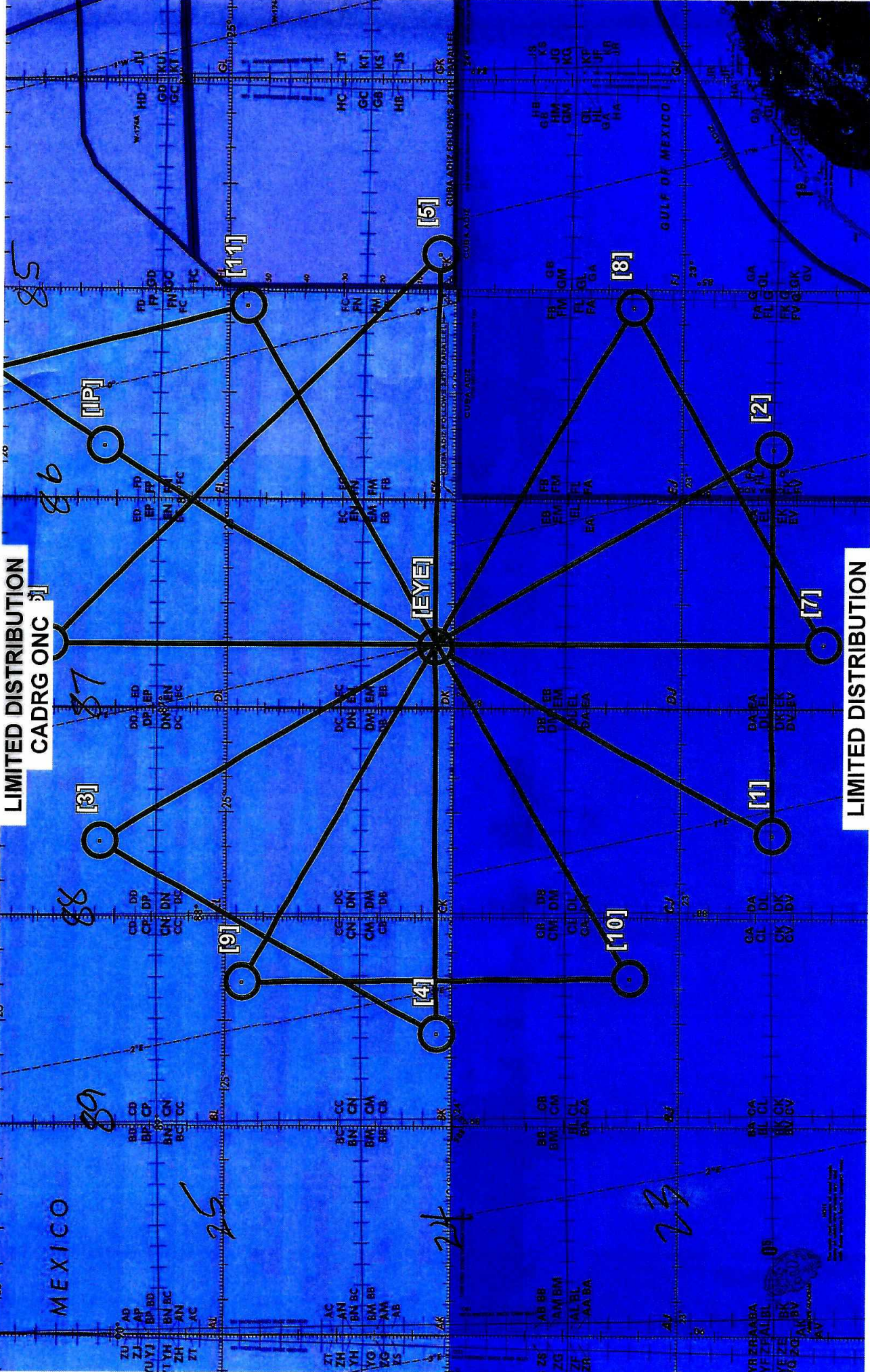
A	151 0308Z	DATE and TIME of FIX
B	25 DEG 07 MIN N S	LATITUDE of FIX
	87 DEG 20 MIN W E	LONGITUDE of FIX
C	700 MB 2532 M	MINIMUM HEIGHT of STANDARD LEVEL
D	NA KT	ESTIMATE of MAXIMUM SURFACE WIND OBSERVED
E	NA DEG NM	BEARING and RANGE FROM CENTER of MAXIMUM SURFACE WIND
F	329 DEG 110 KT	MAXIMUM FLIGHT LEVEL WIND NEAR CENTER
G	241 DEG 17 NM	BEARING and RANGE FROM CENTER OF MAXIMUM FLIGHT LEVEL WIND
H	934 MB	MINIMUM SEA LEVEL PRESSURE COMPUTED FROM DROPSONDE OR EXTRAPOLATED FROM FLIGHT LEVEL. IF EXTRAPOLATED, CLARIFY IN REMARKS.
I	13 C 13062 M	MAXIMUM FLIGHT LEVEL TEMP / PRESSURE ALTITUDE OUTSIDE EYE
J	19 C 13071 M	MAXIMUM FLIGHT LEVEL TEMP / PRESSURE ALTITUDE INSIDE EYE
K	14 C 1 NAC	DEWPOINT TEMP / SEA SURFACE TEMP INSIDE EYE
L	OPEN SW	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	12345/7	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	111 NM	NAVIGATION FIX ACCURACY / METEOROLOGICAL ACCURACY

P	REMARKS MAX FL WIND 147 KT NE QUAD 2039 Z SLP. FROM DROPSONDE
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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

LIMITED DISTRIBUTION
CADRG ONC [1]

LIMITED DISTRIBUTION



MISSION PREFLIGHT LOG		NAVIGATOR		AIRCRAFT COMMANDER		FLIGHT DIRECTOR		SCHEDULED / ACTUAL TAKEOFF Z		DATE OF TAKEOFF								
DESTINATION		MISSION		AIRCRAFT COMMANDER		FLIGHT DIRECTOR		SCHEDULED / ACTUAL TAKEOFF Z		DATE OF TAKEOFF								
KMCF		1VAN #5		TEBEEST		SHEPHERD		1930, 1920		14SEP04								
WP	LAT / LON	RTE	MH	VAR	TH	DR	TRK	GS	WD	WS	ALT	TAS	LEG / TOT DIST	LEG / TOT TIME	PROP ETA	ETA	ATA	REMARKS
1	N 27 51.7 W 82 30.8	1	239	4W	235	/	235		L	V			188 188	37 37				
2	26 01.8 85 32.8		217	2W	215	/	215		L	V			35 223	6 42				
3	25 32.9 85 45.0		212	2W	210	/	210		L	V			102 325	25 1407				
8	24 56.2 87 00.8	8																
4	24 21.4 87 42.9																	
5	22 59.1 85 48.8																	
11	25 52.1 87 49.6																	
7	22 59.1 87 02.7																	
8	23 51.0 85 23.8																	
19	25 47.3 88 51.3	20																
10	24 44.7 89 12.7	21																
EP	25 59.4 85 38.9	22																
9	27 39.8 82 40.7																	
KMCF																		

INS PERFORMANCE		INS 1	INS 2
BEGIN ALIGN TIME		1710	1710
ALIGN STATUS (0-5)		0	0
END NAV TIME		0432	0432
START NAV TIME		1852	1852
DELTA T		9440	9440

TERMINAL ERRORS		INS 1	INS 2
DELTA LAT		-15.6	+9.6
DELTA LON		+8.7	-6.1
RGS		5	2
RADIAL ERROR		18	11

REMARKS	
99	12 PA
42	8 PA
43	10 PA

MISSION LOG

PAGE ___ OF ___

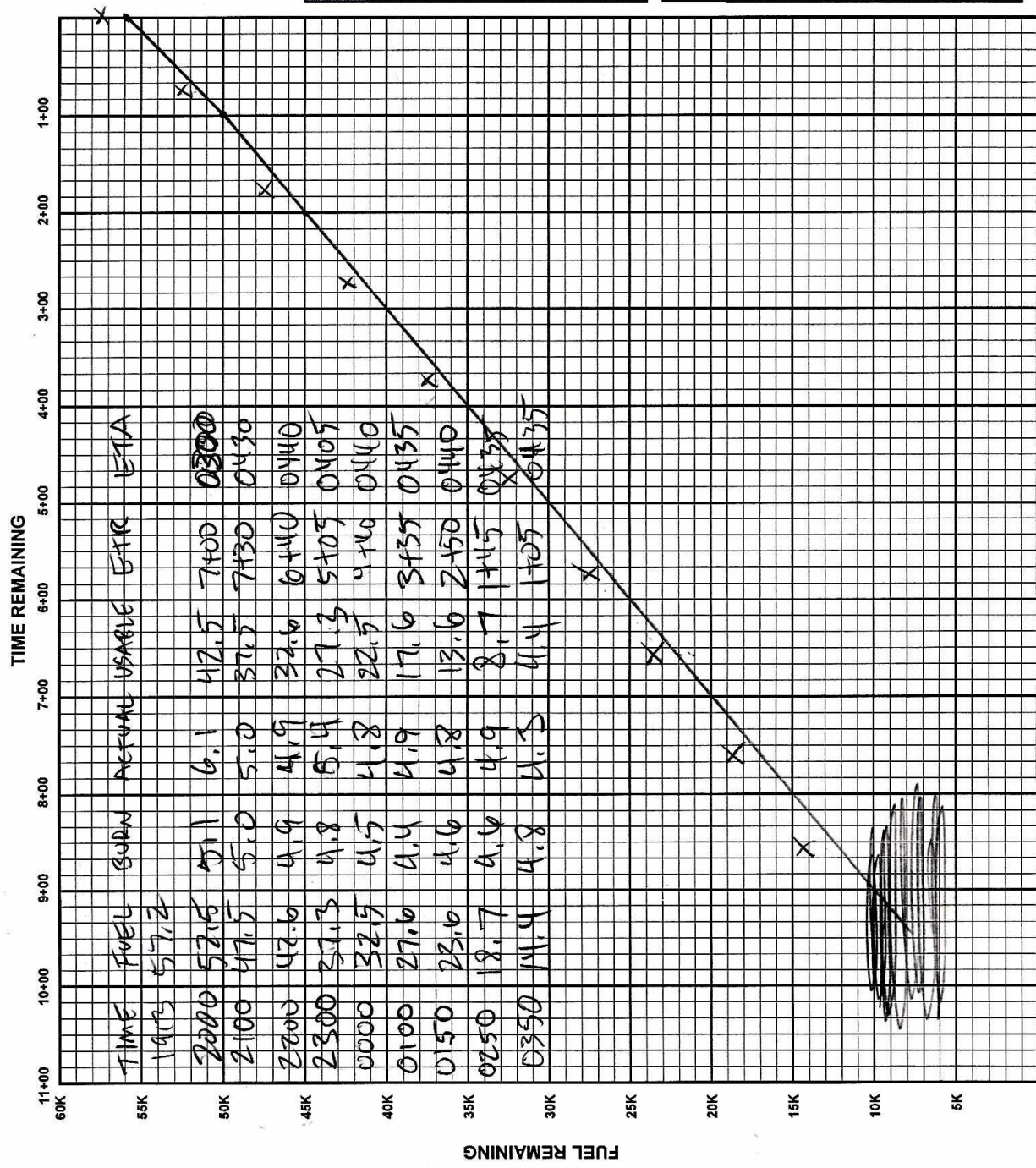
FIX TYPES
(G) - GPS (I) - INS (R) - RADIO (V) - VISUAL (O) - CELESTIAL (D) - DR

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	
1920	412 (I)	N 23.58 W 80.39																				
2046	(I)	24 40.8 86 45.4									335	10										
2201	(I)	24 20.9 86 51.5									331	9										
2319	(I)	24 32.7 86 56.6									338	10										
0045	(I)	24 44.7 87 02.8									335	9										
0203	(I)	24 56.2 87 10.5									329	10										
0508	(I)	25 07.0 87 20.1									321	13										
											330	10										

412

6
40
46
10
56

RANGE CONTROL GRAPH



ENROUTE FUEL

ENROUTE TIME	9:00
ENROUTE FUEL (6K 5K 4.5K RULE)	46
RESERVE AT DESTINATION	10
REQUIRED RAMP	56
ACTUAL RAMP FUEL	57.2

TACTICAL (OFFSTA TO DESTINATION)

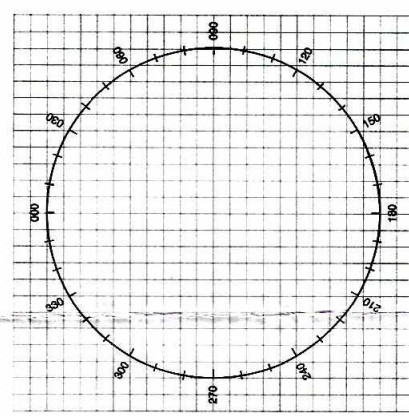
DISTANCE (OFFSTA TO DEST)	
ENROUTE TIME (OFFSTA TO DEST)	
BURN RATE (LBS/HR)	4500
ENROUTE FUEL REQUIRED	5500
RESERVE AT DESTINATION	
FUEL AT OFFSTA	

POINT OF SAFE RETURN

ETP DISTANCE (TO DEPARTURE)	
ENROUTE TIME (TO DEPARTURE)	
BURN RATE (LBS/HR)	4500
FUEL REQUIRED	5500
RESERVE AT DEPARTURE	
PSR FUEL	

CEX - TRUE BEARING METHOD				CEX SIGHT	
COMPASS TYPE	INS1	INS2	WET	GNT	
MCH (READING)				GHA	
- MTH (SEXTANT)				CORR	
CE				GHA	
- VAR				LONG *W	
DEV				-E	
				EXACT LHA	
				LAT	
				BODY	
				DEC	
				HG/D	
				CORR	
				HC	
				Z	
				ZN	

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



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

TRUE AIRSPEED CROSS-CHECK

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

TIME	1944	IAS	212	PRESS ALT	150	"F" FACTOR	X	EAS	6	OAT	270	TAS	260	ITAS	260
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DISTANCE REMAINING

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