NOAA P-3 N43RF
CBLAST 2004
FLIGHT #10

Flight ID: I040913

Sensor or system	Number or Name
INE	1
Accelerometer	1
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: 2001Z
Land: 0159Z

The RA-232 was substituted for the RA-159 during take off and landing due to spiking (T.O. 195701-200227; Land 015753-020200).

The RA-159 had spikes that were removed and patched (003924-003937; 004002-004007; 004613-004627; 004708-004721; 004801-004815; 005739-005752; 010821-010835).

Dew pointer #2 had a spike that was removed and patched (015237-015400).

No data gaps were noted.

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	1012.2 mb	1012.9 mb
Corrected Tower Pressure	1013.2 mb	1013.0 mb

Flight Director: Tom Shepherd
813-828-3310 x3053

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

Flt ID: 040913I	From: KMCF	To: KMCF
Flt. No: 0464	Blk In: 0209z	Time On: 0159z
ETD: 2000z	Blk Out: 1949z	Time Off: 2001z
ETE: 6+30	Blk Time: 6+20 6.3 Hrs	Flt Time: 5+58 6.0 Hrs
Sponsoring Org: NOAA/NHC	Program: Hurr 2004	Purpose: H. IVAN

AOC Flight Crew

Aircraft Commander: TEBEEST, R ✓	Data System: LYNCH, T ✓
Co-Pilot: STRONG, T ✓, NELSON, M ✓ x3	AVAPS: SMITH, J ✓
Navigator: SIEGEL, P ✓, BRAKOB, D ✓	System Eng:
Flight Eng: FLOYD, D ✓, KLIPPEL, J ✓	A A:
Flight Director: SHEPHERD T ✓	A A:
Avionics: SANS SOUCI, D ✓	Crew Chief:

Participating Scientists / Visitors

Name (Last, First)	Activity on Aircraft	Affiliation
BLACK, M ✓	PI	NOAA/HRD
GAMACHE, J ✓	RADAR-SFMR	
WALSH, E ✓	SRA	
REDMAN, R ✓	MEDIA	MacDill THUNDERBOLT

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

Storm Name: IVAN

Mission ID: NOAA3 3009A IVAN

Penetration number and time

1-2151

2-2352

0023 LAST DROP

0826

Recco Times		Fix #	Fix Time
1-2018	0104		
2-2039	0130		
-2211			
2232			
2314			
0029			

(See reverse for additional remarks)

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Flight ID: 040913I	Time Off: 2001Z	Time On: Z

	A/C - Takeoff	Wx Station - Takeoff	A/C - Land	Wx Station - Land
Pressure	1012.2 mb	1013.2 mb	1012.9 mb	1013.0 mb

ATIS	Time	Observation
Takeoff L	1855Z	130/11 7sm SCT030 BKN250 32/21 A2992
Land O	2155Z	080/7 7sm FEW030 SCT12 BKN50 31/23 A2988

	Number	Data Disposition / Date / Quality
Flight Level Tapes	2	
Radar Tapes	1	
Cloud Physics Tapes / CDs		
Video Tapes	4	
Dropsondes	20	Good: 19 Bad: 1
AXBT	0	
AXCP	1	
AXCTD		

Remarks:

RADAR FIX 0108Z
2140 8515

DINKA 4470 DIRECT BLOND @ 21Z

N43RF Hurricane / CBLAST '04 Flight Performance Log

Mission IVAN - SFMR Flt ID 040913I

SED Crew LYNCH, SANS SOUCI, SMITH

Pre-Flight 1800Z Take-Off 20:00 Landing 01:59

	System			Pre-Flight	In-Flight			Post-Flight			
NAV	GPS	FM : 1		DS				LAT	LON	GS	RE
	INE #1 Time On: 1810Z	Aligned to : 9		DS				+.02	40.7	0	1
	INE #2 Time On: 1810Z	Aligned to : 9		DS				-2.10	41.5	2	3
	Diff GPS			TL							
RADAR	MARS Data	Start	Stop	Ready?	HRD?			# DATs ? 2 Given To: JOHN G.			
	MARS	20:07	22:21	TL	Y / N						
	MARS Data / Tape Status 22:21 - 01:28				LFRec	TARec	EOFs				
	MARS LU8	Clean		TL							
	MARS LU9	Clean		TL							
	RADAR R/T SN Tail 202/102 LF 102			TL	Mod Switches	ON		Mod Switches ~~US~~ OFF			
	Nose			DS				Power OFF			
PMS	FSSP Ref VDC:	Covers	OFF	NI				Covers ~~ON~~			
	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	30.4	-30.3	TL				30.6	-30.2		
	Temp #2			TL				Power OFF			
	Temp #3			NI				Power OFF			
	Dewpoint #1 #2 #3 (TDL)			TL				Power OFF			
PRES	Attack / Slip Angle AS DAP SP DBP			TL				Power OFF			
	Differential PO1 PO2 PO3 PO4			TL				Power OFF			
	Absolute PS1 PS2 CBPS			TL				Power OFF			
FLTLVL	Apn-159 SN: 66-024			TL				Power OFF			
	Apn-232 SN: 1761			TL				Power OFF			
	Liquid Water J&W King			JAS	28V WOW : ON ?			Power OFF			
	Radiometer CO2 SST			TL	28V WOW: ON ?			Power OFF			
RAMS	RAMS Data	Start	Stop	Ready?	Errors 8:	Errors 9:		# DATs ? 2 Given To: SLEP			
	CPU: A B	19:47	02:09	TL	8	1		Power OFF			
	RAMS Data / Tape Status				Slow Rec	Fast Rec		Disk Records: 2292			
	RAMS LU8	Clean		TL	2292	22922					
	RAMS LU9	Clean		TL	2292	22922					
	Flight Director Laptop			DS				Power OFF			
	Network			NI							
	ASDL Mission #: 3009A Name: IVAN			TL	Freq: 30	Block: 10		Power OFF			
	C.L. Printer	Start	Stop	Ready?	Paper Bin Stores			Given To:			
	PRATE: 10	19:47	02:09	TL	0% 25% 50% 75% 100%			Power OFF			
MISC	Exterior Walk Around	Plugs	Covers	JAS				Plugs Covers			
	SATCOM W/S Inmarsat GlobalStar			DS				Power OFF			
	AXBT Internal # Loaded :			NA DS				# Launched : —			
	AXBT External # Loaded :			NA DS	28V WOW			# Launched : —			
	AVAPS # On Board : 53			JS				# Dropped : 20			
	Video Cameras	Start	Stop	Ready?	Cameras	Mode		# Tapes ? Given To:			
	VHS SVHS	19:46	02:10		N L R D	2 / 12		Lens Cap ? : JS			
	FCU	—B—C—D—		TL				UPS OFF			
USER	SFMR HRD ACC			TL							
	HRD Work Station			MBK				Accelerometers			
	NASA SRA			EW				#1 (2 G) : 9205			
	ARL BAT Probe, SST & IRGA			NA-JS				#2 (2.5 G) : 6687			
	UW PDA			NU				#3 (3 G) : 5967			
	Scripps MASS, Laser Alt, IR Cam & Sono			NM				#4 (3.5 G) : 2892			
	RSMAS Licor			TL							

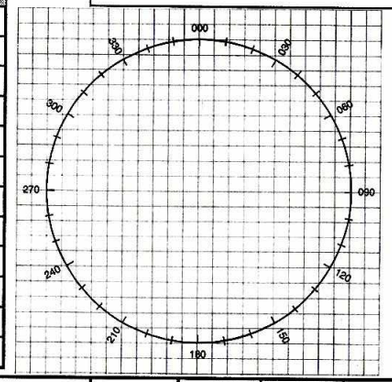
Please Note any Discrepencies

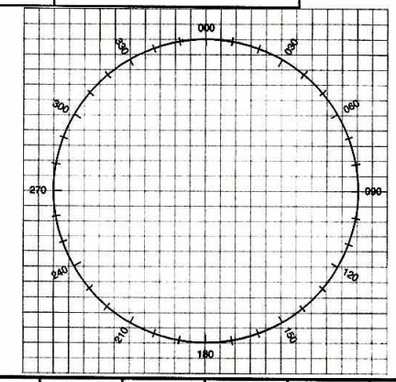
Item #	Zulu Time	Problem Description	Initials	Status
1		Look into moving Nav Tablet from channel 6 to Channel 9	TL	

15 SOBs

CLEARANCES			
FREQ	ALT	HDG	OTHER
			SQ 3644

MISSION LOG | **PAGE ___ OF ___**





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 _____, 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==>	TRK	GS	WD	WS	ALT	TAS	NEXT PT	DIST	TIME	ETA	REMARKS
1944 1949	ENG TAXI																				
2004	BLOCK T/O																				
2005	X✓	N27 51.7 W82 17.7	27 51.7 82 17.8	0 -.1	27 51.7 82 17.8	0 -.1	220	5W	215	2R	217	224	161	13	120	272					105/12
2030	△G	26 22.9 82 47.5	26 22.9 82 47.5	0 0	26 23.0 82 47.5	-.1 0	184	4W	180	5R	185	272	121	24	150	282	CANDA	1412	131	2101	
2105	△	23 57.8 83 06.0	23 57.9 83 06.3	-.1 -.3	23 58.1 83 06.2	-.3 -.2	221	3W	219	11R	230	277	115	57	080	250	IP				
2205	△	20 27.1 85 26.5	20 27.4 85 26.9	-.3 -.4	20 28.2 85 26.5	-1.1 0	226	1W	225	14L	211	234	294	61	080	240	(1)				
2305	△	19 58.7 83 18.1	19 59.0 83 18.1	-.3 0	20 00.9 83 17.6	-2.2 +.5	098	3W	095	11L	084	270	206	56	080	242	(2)				
0005	△	22 03.6 85 54.7	22 03.9 85 54.8	-.3 -.1	22 06.7 85 54.2	-3.1 +.5	325	1W	324	22L	304	249	048	88	080	236	EP				
0105	△	24 56.1 85 21.5	24 56.5 85 21.2	-.4 +.3	24 59.7 85 20.6	-3.6 +.9	048	2W	046	4L	042	293	110	22	100	297	MILNE				
0200	LAND	FMCF																			
		27 51.4 82 30.9	27 51.2 82 30.2	+.2 +.7	27 54.0 82 29.4	-2.6 +1.5															

NOAA FORM 56-49
(2-95)

MISSION PREFLIGHT LOG

DESTINATION	MISSION	NAVIGATOR	AIRCRAFT COMMANDER	FLIGHT DIRECTOR	SCHEDULED / ACTUAL TAKEOFF Z	DATE OF TAKEOFF
KMCF	IVAN # 4	BRAICOB / SIEGEL	TEBEEST	SHEPHERD	2000 / 2001	13 SEP 04

	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
KMCF	1	N27 51.0 W82 31.3		191															
CANOA	2	24 00.0 83 03.0																	
IP	3	23 28.5 83 45.9																	
EYE	8	21 19.0 85 08.0																	
1	4 20	19 07.0 86 15.5																	
2	5 21	20 03.8 82 37.4																	
EP	6 22	22 58.8 87 17.4																	
MYDIA	7	24 02.4 86 09.5		045															
MILNE	9	27 39.5 82 40.7																	

INS PERFORMANCE	INS 1	INS 2
BEGIN ALIGN TIME	1812	1812
ALIGN STATUS (0-5)	0	0
END NAV TIME	0200	0200
START NAV TIME	1925	1925
DELTA T	6+35	6+35

TERMINAL ERRORS	INS 1	INS 2
DELTA LAT	+.2	-2.6
DELTA LON	+.7	+1.5
RGS	0	2
RADIAL ERROR	1	3

REMARKS

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

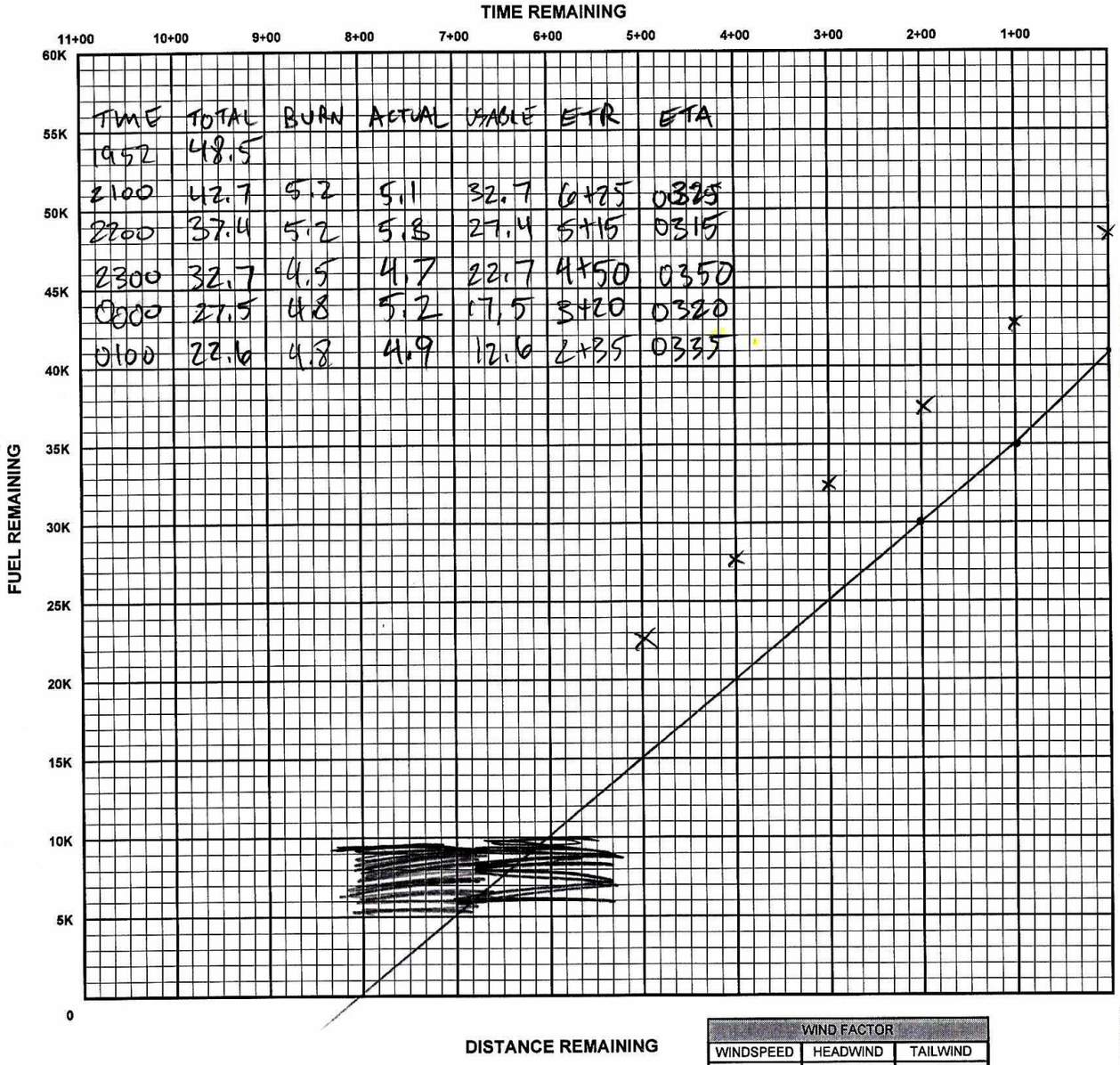
MISSION LOG	PAGE ___ OF ___

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
EYE1	2151	G	N21 18.8 W84 56.0									313	9									
EYE2	2352	G	21 33.3 85 04.7									331	8									
	0108	radar	21 40 85 15									305	9									

6
25
31

RANGE CONTROL GRAPH



TIME	TOTAL	BURN	ACTUAL	USABLE	ETR	ETA
1952	48.5					
2100	42.7	5.2	5.1	32.7	6+25	0325
2200	37.4	5.2	5.8	27.4	5+15	0315
2300	32.7	4.5	4.7	22.7	4+50	0350
0000	27.5	4.8	5.2	17.5	3+20	0320
0100	22.6	4.8	4.9	12.6	2+35	0335

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	6+00
ENROUTE FUEL (6K, 5K 4.5K RULE)	31
RESERVE AT DESTINATION	10
REQUIRED RAMP	41
ACTUAL RAMP FUEL	48.5

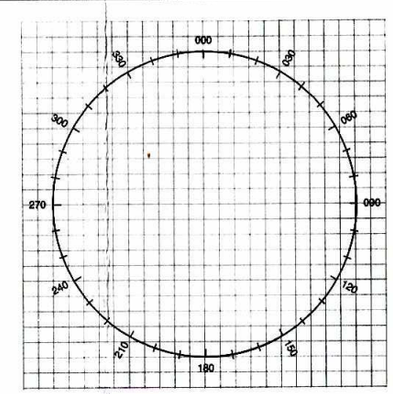
TACTICAL (OFFSTA TO DESTINATION)	4 ENG	3 ENG
DISTANCE (OFFSTA TO DEST)		
ENROUTE TIME (OFFSTA TO DEST)		
BURN RATE (LBS/HR)	4500	5500
ENROUTE FUEL REQUIRED		
RESERVE AT DESTINATION		
FUEL AT OFFSTA		

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			

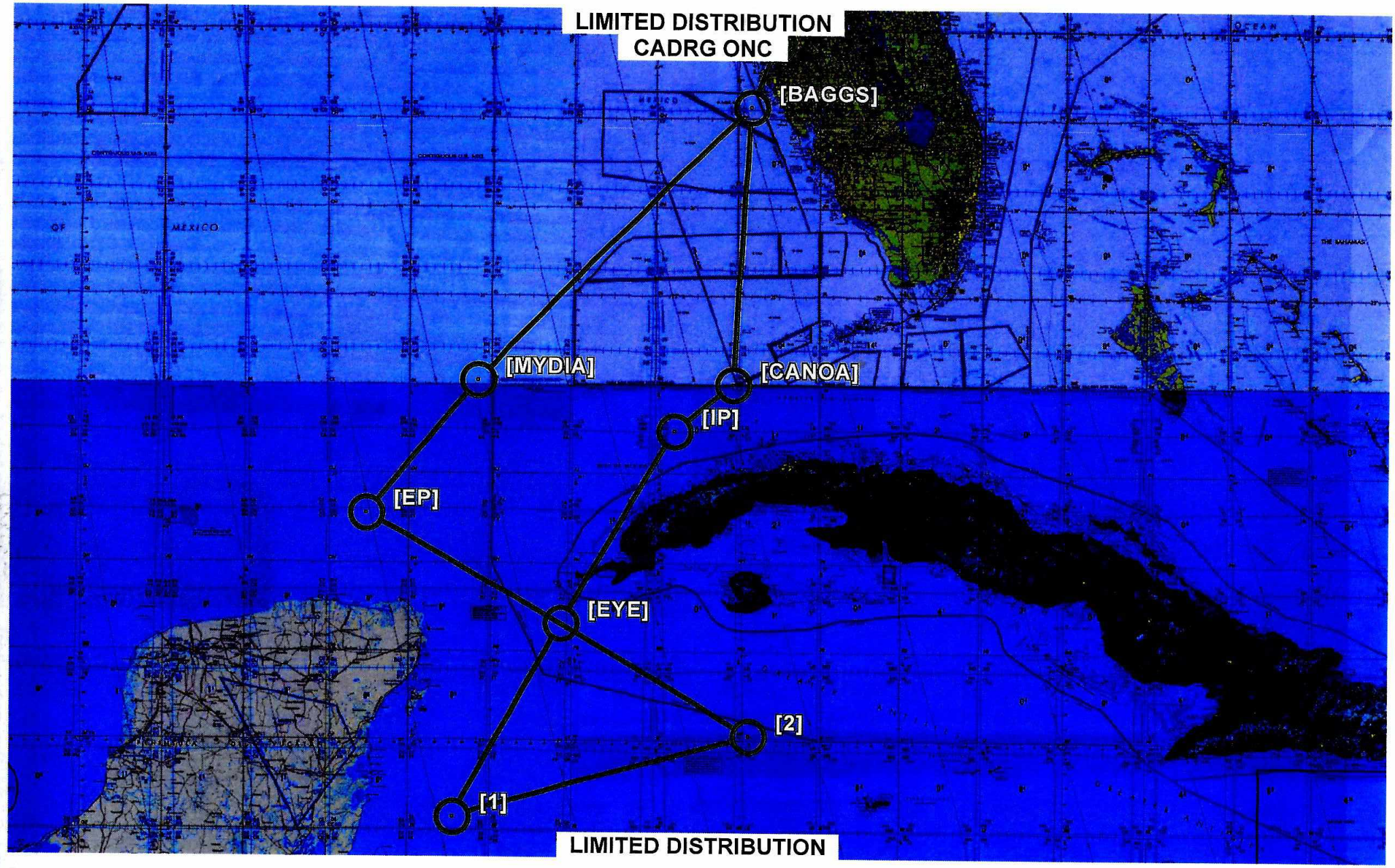
CEX - ERB METHOD			
COMPASS TYPE	INS1	INS2	WET
MERB (DIAL 000)			
+ ZN			
= MTH			
MCH (READING)			
CE			
- VAR			
= DEV			

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
2015	193	120			+14	234	238


LIMITED DISTRIBUTION
CADRG ONC
[BAGGS]
[MYDIA]
[CANOA]
[IP]
[EP]
[EYE]
[2]
[1]
LIMITED DISTRIBUTION