

FLT ID: I960819 FM: KMCF TO: KOPF / KMCF  
 FLT NO: 96-050 BLK IN: 1553Z / 0203Z RTA: 1550Z / 0200Z  
 ETD: 1430Z BLK OUT: 1444Z / 1707Z RTD: 1456Z / 1712Z  
 ETE: BLK TIME: 1:09 / 8:56 FLT TIME: 1:54 / 8:48  
 SPONSOR ORG: HRD PROGRAM: HURRICANE RESEARCH PURPOSE: GENESIS WESTERN CARES

DAO PERSONNEL

AC KENNEDY ✓	SYS ENG ROLES ✓
CP KENUL ✓	DATA SYS LYNCH ✓
NAV KOZAK ✓	RADAR OFFUTT ✓
FE MODRE ✓	BT/ODW GONZALEZ ✓
RADIO SANS SOUCI ✓	CLD PHYS
FD DAMIANO ✓	DOPPLER

PARTICIPATING SCIENTIST/VISITORS/DAO

LAST, FIRST NAME	ACTIVITY ON A/C	AFFILIATION
31 McFADDEN	??	AOC
CLOSSER	MECH	AOC
<del>BLACK</del> BLACK, M	ASST. PI	HRD
BLACK, P	PI	HRD
GAMACHE	RADAR	HRD
LEIGHTON	ODW	HRD
BRACKEN / HORSFALL	OBS	HRD / NMC
47 ABERSON	ODW	HRH

PROPOSED/ACTUAL MISSION/REMARKS (RECCO, FIXES, STORM, PENET, NHOP #)  
 T/O delayed due to data sys. problems & startup problems on #2.  
 Data sys flaky down to OPF. 204640. PSW PSF spikes  
 181300Z 182410Z 1827Z DWI spike  
 KLWC  
 Burke 1830Z

700mb 1724Z	BAL OPT 1824Z	
9.9 82/18	2003 TT2 med sp BLK IN 0314Z	LND 0306
2.6	2042	T/O 0218Z
2/18Z ICE	BLK OUT 0208Z	
	1:06	:48

U.S. DEPT. COMM./NOAA/OAO - DATA SECTION WORK FORM NO.2 OAOWF2 FILE

FLT ID: F960819 TIME OFF: 1456Z/1715Z TIME ON: 1550Z/0200Z

	A/C T/O	WX STN	A/C LAND <i>mcf</i>	WX STN <i>mcf</i>
PRESSURE	<u>1018.6</u>	<u>30.12/30.05</u>	<u>1017.3/108.5</u>	<u>30.06/1018.0</u>

NO DATA DISPOSITION/DATE/QUALITY

1/SEC FLT LVL TAPES

1

FAST FLT LVL TAPES

RADAR TAPES

1

DOPPLER TAPES

ODW CASSETTES

4

HARD COPIES

AXBT

AXCP

ODW

11

PHOTOGRAPHY

	FWD	LS	RS	VERT
ON				
OFF				
RATE				

REMARKS

NOAA • AOC • SED Flight Performance Log

Aircraft : N43RF

Project: Hurricane '96

Mission : Genesis #3

SED Crew: Lynch, Rols, Gonzales, O'Huff

Flight ID : 960819I

Pre-Flight: 13:10

Take-Off: 14:56 / 17:12 / 02:17 Landing: 15:50 / 01:59 / 03:00

System		Pre-Flight	In-Flight	Post-Flight			
N A V	INE #1	Aligned to: $\phi$	✓		-5.7	-6.0	4
	INE #2	Aligned to: $\phi$	✓		3.8	4.5	4
	GPS		✓		Lat	Long	Gs
R A D A R	Nose		✓ TL				
	L/F	R/T SN: 103	✓ TL				Mod Switch Off? <u>Q</u>
	Tail	R&T SN: 202/201	✓ TL				Mod Switch Off? <u>Q</u>
	ASAU's & RCU		✓ TL				
	MARS Data System		✓ TL				# DATs: 1
P M S	2DG-C	Ch 1/64: 1	✓ DO				
	2DG-P	Ch 1/64: 1	✓ DO				
	FSSP	Ref VDC: 8.2	✓ DO				
	SEA Data System		✓ DO				# DATs: 2
T E M P		Cal High	Cal Low		Cal High	Cal Low	
	Temp #1	30.7	-30.2	✓ DEO	30.0	-30.1	
	Temp #2			✓ DEO			
	Temp #3	(Starboard)		NI			
	Dewpoint #1			✓ DEO			
	Dewpoint #2	(AOC)		✓ DEO			
P R E S S	Attack Angle (AP/DAP)		STM/DWC				
	Slip Angle (BP/DBP)		STM/DWC				
	Differential (PQ1/PQ2/PQ3)		STM/DWC				
	Absolute (PS1/PS2)		STM/DWC				
	Radome Transducers		Plugs? Removed ok				
F L T  L V L	Cabin Transducer (Station 5)		STM/DWC				
	Apn-159	SN: SW71-01	✓ DEO		Off?: <u>Q</u>		
	Apn-232	SN: 1698	✓ DEO		Off?: <u>TL</u>		
	King Liquid Water		✓ TL				
	J&W Liquid Water		✓				
	Down PRT-5 (SST)		✓ TL				
M I S C	Side PRT-5 (CO <sup>2</sup> )		✓ TL				
	RAMS Data System		✓ TL ① ③				# DATs: 2
	ASDL		✓ TL		Off?: <u>✓ TL</u>		
	Epply Radiometers (PSP / PIR)		NI				
	Exterior Walk Around		✓ JG				
	Video	① ② ③ ④	✓ TL				
	AXBT Receivers		NI				
	AXBT Sonobouys		#On Board: —	# Dropped: —	# Good: —		
	ODW System		✓		# Tapes: 4		
	ODW Dropsondes		#On Board: 20	# Dropped: 11	# Good: 3		
FCU	CAD	✓ TL ②		UPS Off: ?			
U S E R	Charge Probe		—		Accelerometers		
	HRD Workstation		—		#1 (2 G): 8153		
	Field Mills	① ② ③ ④	✓ TL		#2 (2.5 G): 6684		
	Lawrence Water Collector		—		#3 (3 G): 5967		
	Formvar		NU		#4 (3.5 G): 2892		

9688



NOAA • AOC • SED  
N43RF DATA STATION LOG

Project : Hurricanes '96 Mission : Genesis #3 Flight ID : 960819I

Operators : Lynch

Take Off : 14:50 / 17:12 / 02:17 Landing : 15:50 / 01:59 / 03:00

RAMS DAT 1 On [8 9]: <u>14:41</u>	RAMS DAT 1 Off: <u>1615</u>	CPU Selected: <u>A</u> B
RAMS DAT 2 On [8 9]: <u>17:04</u>	RAMS DAT 2 Off: <u>03:14</u>	VCR's Used: <u>N L R D</u>
RAMS DAT 3 On [8 9]:	RAMS DAT 3 Off:	
Printer On: <u>14:41 / 17:04</u>	Printer Off: <u>03:14</u>	
VCR's On: <u>14:47</u>	VCR's Off: <u>01:02</u>	VCR Count: <u>5276</u>
MARS DAT On: <u>172950</u>	MARS DAT Off: <u>0042</u>	
PMS DAT On: <u>172103 23:50</u>	PMS DAT Off: <u>2300 01:20</u>	

ASDL Messages							
Message	Time	Message	Time	Message	Time	Message	Time
<u>R V S B</u>	<u>17:16</u>	<u>R V S B</u>	<u>22:31</u>	<u>R V S B</u>		<u>R V S B</u>	
<u>R V S B</u>	<u>17:46</u>	<u>R V S B</u>	<u>23:00</u>	<u>R V S B</u>		<u>R V S B</u>	
<u>R V S B</u>	<u>18:10</u>	<u>R V S B</u>	<u>23:30</u>	<u>R V S B</u>		<u>R V S B</u>	
<u>R V S B</u>	<u>18:17</u>	<u>R V S B</u>	<u>00:03</u>	<u>R V S B</u>		<u>R V S B</u>	
<u>R V S B</u>	<u>18:41</u>	<u>R V S B</u>	<u>00:31</u>	<u>R V S B</u>		<u>R V S B</u>	
<u>R V S B</u>	<u>19:03</u>	<u>R V S B</u>	<u>00:59</u>	<u>R V S B</u>		<u>R V S B</u>	
<u>R V S B</u>	<u>19:31</u>	<u>R V S B</u>	<u>01:24</u>	<u>R V S B</u>		<u>R V S B</u>	
<u>R V S B</u>	<u>19:57</u>	<u>R V S B</u>		<u>R V S B</u>		<u>R V S B</u>	
<u>R V S B</u>	<u>20:30</u>	<u>R V S B</u>		<u>R V S B</u>		<u>R V S B</u>	
<u>R V S B</u>	<u>21:00</u>	<u>R V S B</u>		<u>R V S B</u>		<u>R V S B</u>	
<u>R V S B</u>	<u>21:30</u>	<u>R V S B</u>		<u>R V S B</u>		<u>R V S B</u>	
<u>R V S B</u>	<u>22:00</u>	<u>R V S B</u>		<u>R V S B</u>		<u>R V S B</u>	

R = Recco V = Vortex S = Sofide B = AXBT

Data Station Operator Notes

21:00  
21:30

→ Numerous IAC hangups at startup - MARS card hard IRQ lite - pulled cards to unload bus

- PMS Dat f

HRD Tropical Cyclone Gensis  
-----

FLIGHT #01 I960819 (Flight south of Cuba...T. S. Dolly)

TYPE OF DATA -----	SENSOR OR OPTION -----
INE	1
Accelerometer	1
Temperature probe	1
Altitude change option (for vertical winds)	RA159
Static pressure	Rosemount fuselage
Dynamic pressure	Rosemount fuselage
Time source	Micro 99
Constants file	CO3964.CON

Notes:

There were two time/data gaps:

175311Z - 175330Z  
180001Z - 180020Z

The King Liquid water probe broke at 1830Z.

Spikes in fuselage static pressure (PSF) were removed and patched during the following time frames:

172500Z - 172800Z  
181200Z - 181400Z  
185500Z - 185800Z

The dewpoint sensor (DW1) was balanced at 1824Z. The spike from this action was removed and patched over.

Downward spikes in radar altitude are a result of overflying land.

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	1017.5mb	1017.3mb
Corrected tower pressure	1017.0mb	1017.0mb

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

I960819

TIME	LAT	LONG	TRK	HD	WD	WS	PA	GA	TA	TP	SP	PS	PK
1502	2756	8212	76	77	72	14	431	450	24.7	20.8	1016.1	962.5	CLDS 62.6
172400	2531	8023	236	235	83	19	2824	3018	10.5	4.2	1017.1	713.1	CLDS 63.4
174200	2444	8131	232	231	100	11	5484	5813	-6.4	-20.2	1014.2	505.9	SCT CLDS 74.4
175900	2405	8249	245	245	92	14	5513	5837	-6.6	-13.5	1013.1	504.1	SCT CLDS 73.0
182400	2809	8451	217	214	84	22	5213	5511	-3.1	-9.7	1009.1	525.0	SCT CLDS 71.4
184100	2200	8546	219	219	75	18	5211	5503	-3.5	-8.5	1009.8	525.0	SCT CLDS 74.4
192400	1851	8553	149	148	27	11	5831	6147	-7.1	-9.6	1005.5	482.8	CLDS 74.0
193648	1821	8457	93	91	9	14	5834	6141	-6.4	-11.4	1003.5	482.9	CLDS 75.8
195400	1832	8330	84	84	9	9	5831	6124	-6.8	-7.6	1001.7	482.9	CLDS 69.9
200600	1832	8227	90	91	203	6	5827	6124	-6.8	-6.6	1002.2	482.9	ICE 67.8
201700	1831	8130	90	94	226	16	5831	6130	-6.4	-7.7	1001.5	482.8	-ICE 74.7
202530	1836	8054	321	326	197	12	5830	6133	-6.8	-8.3	1003.3	482.9	ICE 66.8
204000	1930	8142	321	324	115	21	5829	6130	-6.4	-6.6	1002.0	482.9	ICE 72.6
205500	2050	8235	322	328	87	31	5829	6143	-6.7	-8.0	1002.0	482.9	ICE 74.6
210425	2055	8309	222	219	77	32	5830	6149	-6.6	-9.6	1004.6	483.0	ICE 72.7
212940	1908	8406	210	211	191	8	5828	6113	-5.3	-9.4	998.4	483.2	ICE 69.0
214437	1757	8416	112	112	317	19	5821	6114	-6.2	-11.1	1002.1	483.6	ICE 74.0
215800	1726	8308	108	112	235	17	5819	6115	-6.5	-8.4	1003.3	484.0	ICE 67.1
221440	1729	8242	323	320	248	22	5819	6114	-6.6	-8.9	1002.3	483.7	ICE 70.8
224516	1924	8418	315	315	141	13	5809	6096	-5.3	-7.9	998.2	483.7	ICE 74.8
230300	2031	8510	326	332	47	27	5830	6144	-6.2	-7.6	1003.3	482.8	ICE 71.1
231105	2054	8535	172	167	64	27	5830	6151	-5.6	-11.3	1003.2	483.0	ICE 73.8
231800	2018	8531	178	175	42	29	5828	6143	-6.2	-11.9	1003.9	483.0	ICE 76.0
233700	1914	8457	90	87	39	25	5828	6121	-5.4	-8.1	998.8	483.1	ICE 71.7
234450	1910	8419	124	125	143	15	5816	6109	-5.3	-8.5	999.1	483.8	ICE 76.1
001347	1908	8159	27	29	169	10	5814	6120	-6.6	-8.4	1005.1	483.9	ICE 71.3
002440	1953	8130	33	37	103	16	5815	6127	-6.9	-9.0	1005.2	483.8	ICE 74.0
004200	2118	8134	356	1	113	23	5814	6142	-6.3	-10.6	1005.7	484.0	ICE 74.2
005500	2221	8130	7	14	115	27	5814	6149	-7.2	-9.2	1007.8	484.0	ICE 74.4
011300	2346	8115	6	13	106	34	5818	6152	-7.7	-8.2	1009.8	483.3	ICE 79.0
013000	2501	8103	26	31	81	25	2736	2896	11.4	4.4	1015.4	731.3	ICE 75.8

I 960819

RENAV FNE 1

190300, .8, .6  
200300, .9, -.3  
210300, .6, .3  
220300, .7, 1.6  
230300, -.4, 1.4  
000300, -1.5, 1.1  
010300, -2.3, 2.7  
020300, -3.5, 3.5

W7 plots

2128-2138

Downward spike in RA  
in overflying land (Antar)

DATA GAPS

175311-175330

180001-180020

PSF spikes

172730, 181230, 181430, ~~RA~~ RA159 fix  
185630,

PQFI spikes

171230-174800  
193830, 213230  
2352,

PSW spikes

174030, 174400,  
1750-1753, 1755-1800  
183430, 190130, 1957  
2038, 2111-211230  
2237, 224830  
003530

Fix DW1

1823-1827 .06 piter  
used onto 5 times

171130-171330

RA159-RA232  
015930-020300

TT spikes

1958-201200 ✓  
203930-205200 ✓  
2115-2129 ✓ 2348-2358 ✓  
2221-2238 ✓ 0111-0124 ✓  
2240-2252 ✓  
2337-2345 ✓

BPF

234200

TT plots

1955-2015 (good)  
0110-0125  
2038-2053 (good)  
2220-2240 (good)



DATE : 8/19/96  
TO : Chief, AOC Flight Operations  
FROM : Pilot/Flight Director, Aircraft N43RF ON 0314Z BLOCKTIME  
SUBJECT: Hazardous Duty OFF 1444Z 12:30

PURPOSE OF FLIGHT: HURRICANE RESEARCH FOR HRD  
Hazardous Duty Pay is required for flight made on 8/19/96  
(DATE)

Request based on FLYING THROUGH THUNDERSTORMS  
OF DEVELOPING TROPICAL SYSTEM

Personnel on board authorized Hazard Pay:

- MOORE
- CLOSSER
- DAMIANO
- LYNCH
- ROLES
- OFFUTT
- GONZALEZ
- McFADDEN
- SANS SOUCI

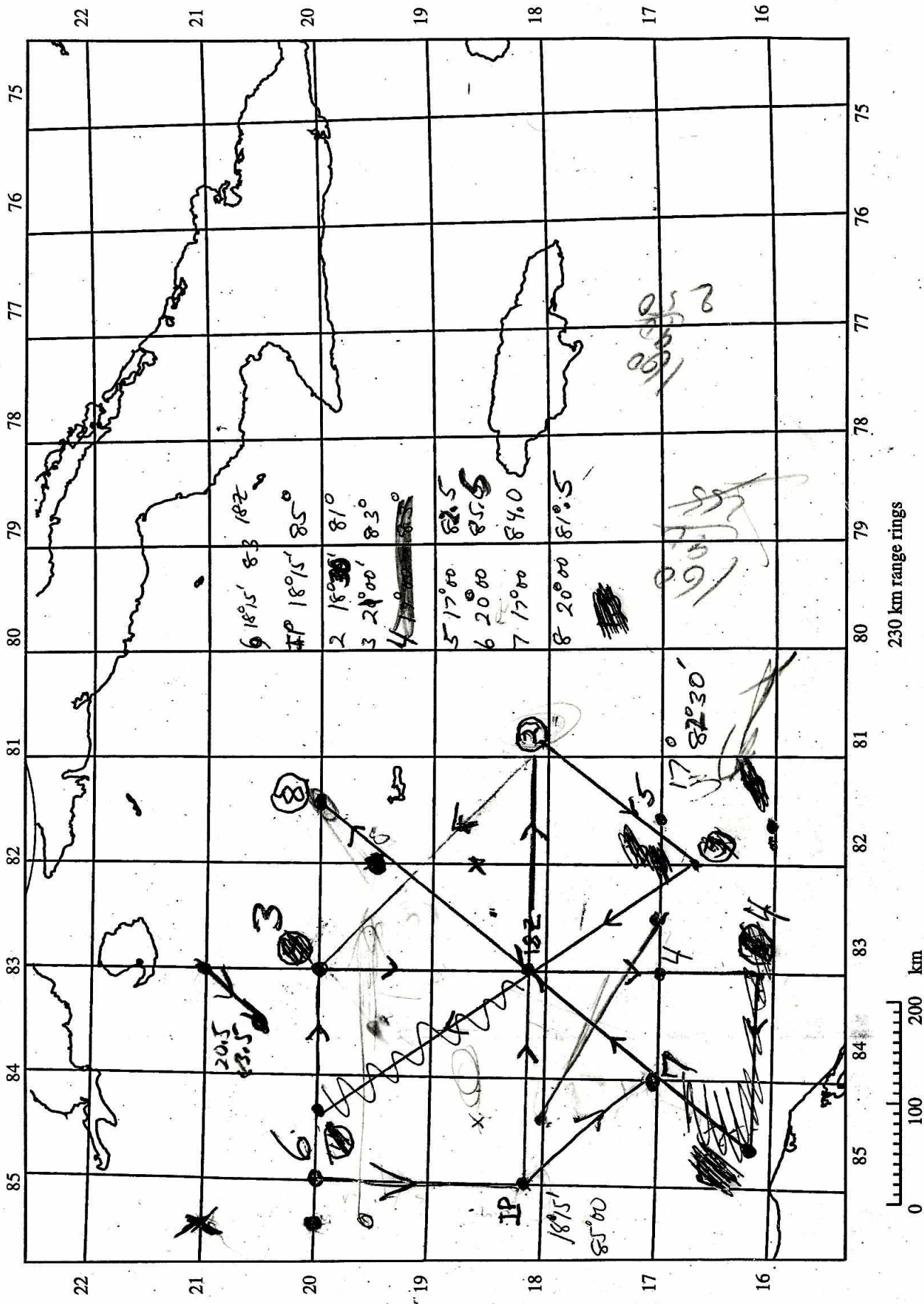
PILOT/FLIGHT DIRECTOR: A. Barry Damiano

APPROVED: \_\_\_\_\_ DISAPPROVED: \_\_\_\_\_

CHIEF, AOC FLIGHT OPERATIONS: \_\_\_\_\_

960819I option (2) not over Cuba ~~18,000~~ <sup>18</sup>

Center Lat: 19.00 Lon: -80.00



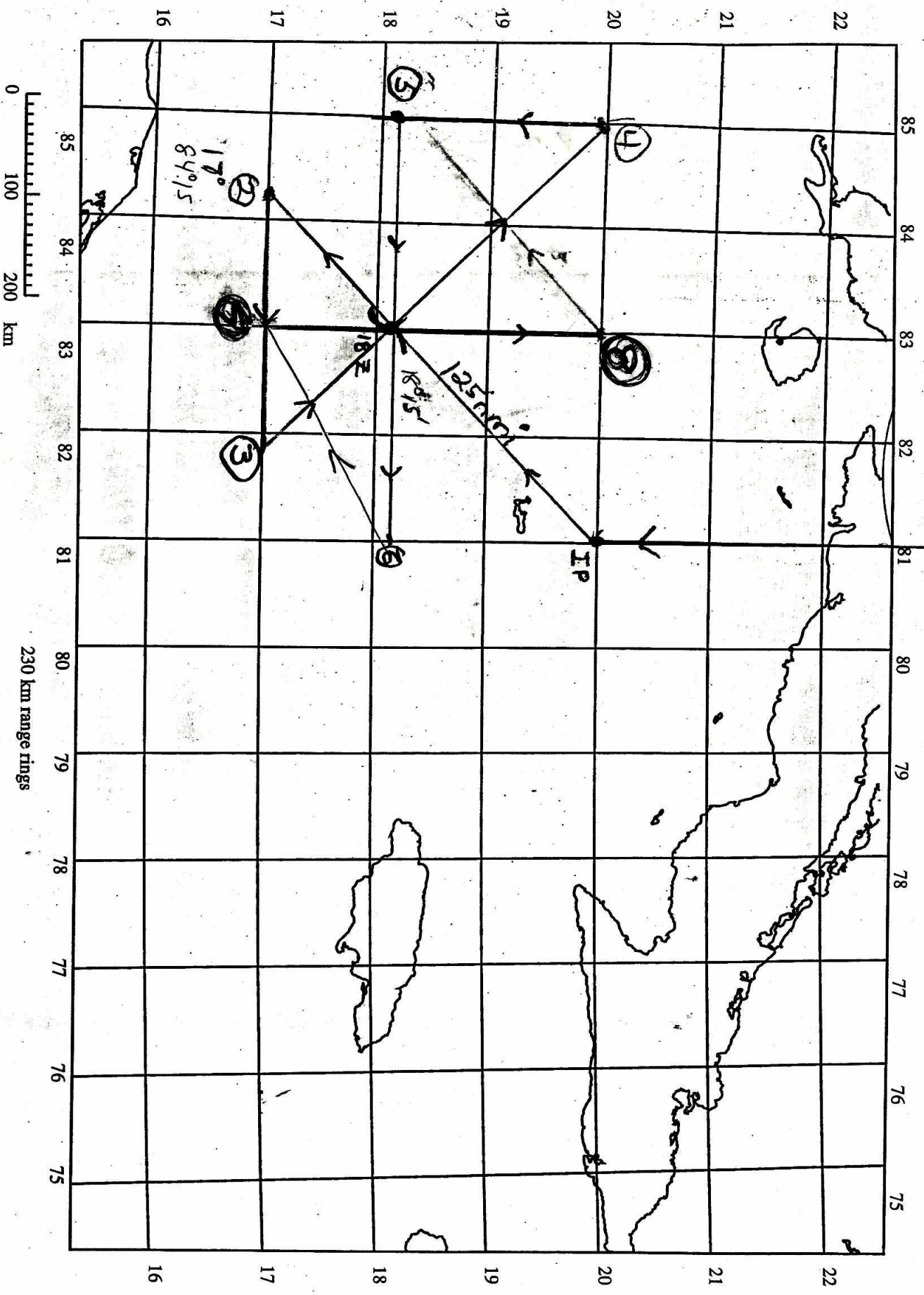
860819I

Option D over Cuba

18  
~~29~~ 000 ft

Center Lat: 19.00 Lon: -80.00

MIA  
↑



DATE : 8/19/96

TO : Chief, AOC Flight Operations

FROM : Pilot/Flight Director, Aircraft N43RF ON 0314Z BLOCKTIME  
OFF 1444Z 12:30

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- LYNCH \_\_\_\_\_
- ROLES \_\_\_\_\_
- OFFUTT \_\_\_\_\_
- GONZALEZ \_\_\_\_\_
- Mc FADDEN \_\_\_\_\_
- SANS SOUCI \_\_\_\_\_

PILOT/FLIGHT DIRECTOR: A. Barry Damiano

APPROVED: \_\_\_\_\_ DISAPPROVED: \_\_\_\_\_

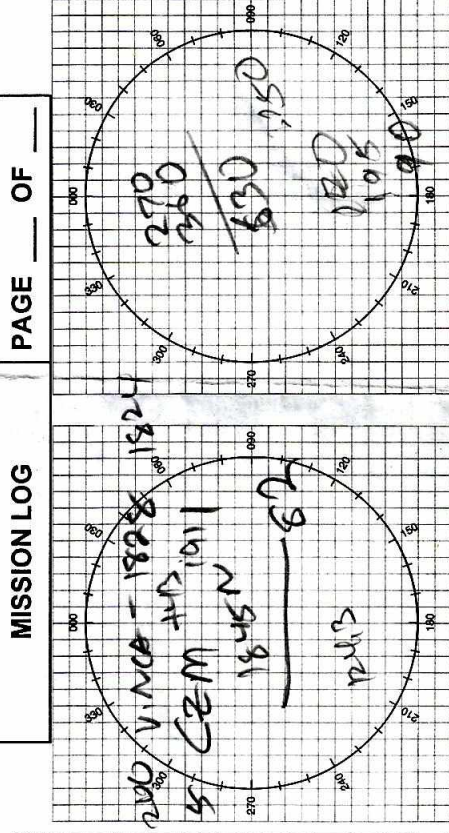
CHIEF, AOC FLIGHT OPERATIONS: \_\_\_\_\_

1920 8310 1830 2310 2342

224 2915 2915 2310 2342

1902 CANOG

CLEARANCES		
FREQ	ALT	HDG
		OTHER
171V	0800	
6090	1,600	
	0134	19.9
	AFK	
	Dme 6.76 VINCA	
	Blw 7.64 Kcne	
	WAT 6.6 ER 60L	



POSITION REPORT	
1. POSITION	240
2. TIME	435
3. ALTITUDE	120
4. NEXT POSITION	535
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:  
 UNF/VOICE 243.0  
 VHF/VOICE 121.5  
 MF/VOICE 2182 KHZ  
 HF/CW 8364 KHZ  
 500 KHZ  
 MAYDAY, MAYDAY, MAYDAY  
 THIS IS NOAA  
 NOAA  
 NOAA  
 POSITION N/S E/W AT  
 HEADING TRUE/MAG  
 AT KTS TRUE/INDICATED  
 FLIGHT LEVEL OR ALTITUDE  
 WE ARE A P-3 AIRCRAFT WITH  
 NATURE OF EMERGENCY  
 ASSISTANCE DESIRED  
 PILOT INTENTIONS  
 WE HAVE  
 ENDURANCE REMAINING  
 55

TIME	FIX TYPE	POSITION	INS 1 POSITION	K ERR	INS 2 POSITION	K ERR	VAR	MH	TH	DR	TRK	GS	WD	WS	ALT	TAS	NEXT PT	DIST	TIME	ETA	REMARKS	
1726	V	2750.0N 8029.6W																				
1745																						
1756																						
1803	V	2554.6N 8016.4W	2554.1N 8016.3W	+5	2554.2 8016.5W	+1																
1702	V		2554.7N 8016.1W	+9	2554.0N 8016.5W	+3																
1707																						
1712																						
1743	6	2438.5N 8137.3W	2437.3N 8137.1W	+1.8	2437.7N 8137.1W	+1.8			209	V	200	293	086	13	18,000	286						
1840	6	2204.8N 8540.6W	2204.1N 8540.8W	+1.7	2204.0N 8543.0W	+1.7			210	V	216	297	088	14	17,000	279						
2145	6	1756.0N 8407.4W	1755.4N 8406.2W	+1.6	1755.8N 8406.5W	+1.6			113	V	113	304	316	19	19,000	286						
2252	6	1949.7N 8439.6W	1950.0N 8438.8W	+1.5	1950.2N 8440.1W	+1.5			331	V	304	286	056	26	19K	282						
5009	6	1905.4N 8220.7W	1906.9N 8219.3W	+1.5	1907.5N 8220.6W	+1.1			090	V	090	289	101	6	19K	294						
0200																						
0203	V	2554.6N 8016.4W	2555.6N 8015.3W	-5.6	2558.1N 8012.9W	+3.6																
0214																						

1207 1818 8416W 1008 2310 2342



20N 8125W ATUUI 46408 VFR SIMLA 8138 8604 1816 8532  
 Dolly?

NOAA FORM 56-49 (2-95)

MISSION PREFLIGHT LOG  
 DESTINATION: ATUUI MISSION: 96-50 SCHEDULED / ACTUAL TAKEOFF Z: 1430 DATE OF TAKEOFF: 96-08-19  
 NAVIGATOR: Kozak AIRCRAFT COMMANDER: Kennedy FLIGHT DIRECTOR: DOMONO

INS PERFORMANCE	
BEGIN ALIGN TIME	INS1 INS2
1815	1315
ALIGN STATUS (0-5)	0
END NAV TIME	0315
START NAV TIME	1435
DELTA T	1240

TERMINAL ERRORS	
DELTA LAT	INS1 INS2
-57	-6.0
438	+5
4	4
6	6

WP	LAT / LON	RTE	MH	VAR	TH	DR	TRK	GS	WD	WS	ALT	TAS	LEG / TOT DIST	LEG / TOT TIME	PROP ETA	ATA	REMARKS
1	08F 2554N 8016.17W	OPF											84				
2	2448.71N 8105.17	MTA											89	1748			
3	2432.9N 8147.2W	BYW. FIS											260	1810			
4	2408.1N 8631.5	VPSA											383	182			
5	1700N 8700W	SIMBA	2186N 8604										204	1957			
6	1700N 8700W	SP	1810N 8532W										30	200			
7	2554N 8016.17W	OPF	1815N 8500W										739	208			
8	2400N 8413W	TRAPAR	201N ATUUI										205				
9	2157.0N 8138.5W	KCL											206				
10	1945.5N 8322.4W	MIXOL											449				
11	1702.7N 8736.18W	KIRAP											152				
12	1700N 8700W												291				

REMARKS