FLT ID: I950420	FM: OKC	TO: OKC
FLT NO: 95-027	BLK IN: 0030Z	ATA: 0025Z
ETD: 1700Z	BLK OUT: 1713Z	ATD: 1721Z
ETE:	BLK TIME: 7:17	FLT TIME: 7:04
SPONSOR ORG: NSSL	PROGRAM: ARM	PURPOSE: CLEAR AIR RADIATION

OAO PERSONNEL

AC	KENNEDY	SYS ENG	LYNCH
CP	TENNESEN	DATA SYS	PRADAS-BERGNES
NAV	RATHBUN	RADAR	
FE	MOORE	BT/ODW	McNAMARA
RADIO	~~[illegible]~~	CLD PHYS	
FD	DAMIANO	DOPPLER	

PARTICIPATING SCIENTIST/VISITORS/OAO

LAST, FIRST NAME	ACTIVITY ON A/C	AFFILIATION
WATSON	PI	NSSL
SHEPHERD	RADAR	NSSL
FEDOR	RADIOMETERS	NCAR
IRISOV	RADIOMETERS	U of COL
ZIEGLER	OBS	NSSL

PROPOSED/ACTUAL MISSION/REMARKS (RECCO, FIXES, STORM, PENET, NHOP #)

1920Z WNDSHFT under cld cover

RD and RU swapped physical locations prior to T/O

T/O delayed due to mag. heading glitch

2109Z
CLDS

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

FLT ID: I950420 TIME OFF: 1721Z TIME ON: 0025Z

	A/C T/O	WX STN	A/C LAND	WX STN
PRESSURE	960.0		958.0	

	NO	DATA DISPOSITION/DATE/QUALITY
1/SEC FLT LVL TAPES	1	
FAST FLT LVL TAPES	1	
RADAR TAPES		
DOPPLER TAPES		
ODW CASSETTES		
HARD COPIES		
AXBT		
AXCP		
ODW		

PHOTOGRAPHY

	FWD	LS	RS	VERT	
ON					
OFF					
RATE					

REMARKS

NOAA • AOC• SED Flight Performance Log

22 March 95

Aircraft : N43RF Project: VORTEX • ARM '95 Mission : Arm

SED Crew: Lynch, JCPB, McNamara Flight ID : 950A20I

Pre-Flight: 15:00 Z Take-Off: 17:21 Landing: 21/00:24

	System			Pre-Flight	In-Flight	Post-Flight		
NAV	INE #1	Aligned to : 5		✓TL		+1.8	-2.3	10
	INE #2	Aligned to : Ø		✓TL		-4.5	+5.1	8
	GPS			✓TL		Lat	Long	GS
RADAR	Nose			✓TL				
	L/F	R/T SN :		✓TL		Mod Switch Off ? ✓		
	Tail	R&T SN : 201/203		✓TL		Mod Switch Off ? ✓		
	ASAU's & RCU			✓TL				
	MARS Data System			✓TL		# DATs : Ø		
PMS	2DG-C	Ch 1/64: /		✓				
	2DG-P	Ch 1/64: /						
	FSSP	Ref VDC:						
	SEA Data System					# DATs : 1		
		Cal High	Cal Low			Cal High	Cal Low	
TEMP	Temp #1	30.7	-30.3	✓TL		30.6	-30.2	
	Temp #2	30.6	-30.4	✓TL		30.4	-30.3	
	Temp #3	(Starboard)		✓TL				
	Dewpoint #1			✓TL				
	Dewpoint #2			✓TL				
PRESS	Attack Angle	(AP/DAP)		✓TL				
	Slip Angle	(BP/DBP)		✓TL				
	Differential	(PQ1/PQ2/PQ3)		✓TL				
	Absolute	(PS1/PS2)		✓TL				
	Radome Transducers			Plugs Out ? ✓TL				
FLT LVL	Apn-159	SN: SW-2		✓TL				
	Apn-232	SN: 1099		✓TL				
	King Liquid Water			✓TL				
	J&W Liquid Water			✓TL				
	Down PRT-5	(SST)		✓TL				
	Side PRT-5	(CO^2)		✓TL				
	Up PRT-5			Open ? RJM (D)		Closed ? ✓TL		
	RAMS Data System			✓TL		# DATs : 2		
	Exterior Walk Arround			RJM				
	Video	(N) (L) (R) D		✓TL				
	FCU	-A- B D		✓TL				
USER	Charge Probe			NU		Accelerometers		
	Gerber Liquid Water	1.7 / .8		✓TL		#1 (2 G) : 8148		
	Field Mills	(L) (R) U (D)		✓TL		#2 (2.5 G) : 66084		
	ETL Dual-Channel uWave Radiometer			✓TL		#3 (3 G) : 5967		
	Epply Radiometers (PSP / PIR)			✓TL		#4 (3.5 G) : 2892		
	2 Meter Repeater / Duplexer			✓TL				
	Cappiccuno Machine			✓				

Please Note any Discrepencies

Item #	Zulu Time	Problem Description	Initials	A-23A #
①		~~[illegible]~~. swapped UP + SST PRT-5 : untill we have a chance to modify up PRT-5	TL	OK
—		- constants were swapped in Rams - common —	—	—

F950420

NO DATA GAPS

REMAINED

192800, -2.8, +.4

202800, ~~+.1, -2.8~~ -2.5, +1.7

212800, ~~+.2, -.1~~ -.1 +2.1

222800, ~~-.9, +.0~~ -5.3, +2

232800, ~~+3.2, +1.9~~ -5.9, +5.6

002800, ~~+2.0, -1.1~~ -4.6, +3.5

PC+ROL INEI spiker
214400

RA157 = RA232

002100 - 002800

2107 wz clerk

2146

VORTEX95/ARM95

FLIGHT #05 I950420 (ARM, Clear air flight and soundings)

TYPE OF DATA	SENSOR OR OPTION
INE	2
Accelerometer	2
Temperature probe	1
Altitude change option (for vertical winds)	PA
Static pressure	Rosemount fuselage
Dynamic pressure	Rosemount fuselage
Time source	Micro 99
Constants file	CO3955.CON

Notes:

There were no time/data gaps.

The downlooking radiometer (RD) and uplooking radiometer (RU) swapped physical locations for this flight, and remained in this configuration for the duration of the project.

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	960.0mb	958.0mb
Corrected tower pressure	N/A	N/A

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

```
TITLE (MAX 21 CHARACTERS) -- EX  HURRICANE PAINE
VORTEX95 ARM FLT
YYMMDDL  FLT I.D.
950420I
HHMMSS START TIME    -99999 DEFAULT TO START OF DATA FOR PRINTOUT ONLY
171701
HHMMSS END TIME      999999 DEFAULT TO END OF DATA FOR PRINTOUT ONLY
002800
HHMMSS TAKE OFF TIME
172100
* NUMBER OF TAPES (I2) ...FOR STANDARD TAPE OUTPUT ONLY
05
* -------LOGICAL UNIT OF INPUT DATA (I1)    8 OR 9 FOR TAPE DRIVE
9
* -------LOGICAL UNIT OF OUTPUT TAPE DRIVE (I1) [FOR STANDARD TAPE ONLY]
9
* -------LOGICAL UNIT OF PRINTER (I1)
6
* -------DATE OF PROGRAM (MMDDY)
06094
* -------STATIC PRESSURE PROBE (I1)
* 1 = PSW (WINGTIP)
* 2 = PSF (CO-PILOT/FUSELAGE)
* 3 = FUTURE USE
2
* -------DYNAMIC PRESSURE PROBE (I1)
* 0 = PQW(WINGTIP)
* 1 = PQF1 (FUSELAGE 1281)
* 2 = PQF2 (FUSELAGE 1221)
* 3 =FUTURE US
1
* ---------INE SELECTION  (I1)
* 1 = INE 1
* 2 = INE 2
2
* ---------ACCELEROMETER (I1) - USUALLY THE SAME AS YOUR INE SELECTION
2
* --------- TOTAL TEMPERATURE PROBE (I1) [1 OR 2]
1
* --------- DEWPONT TEMPERATURE PROBE (I1) [1 OR 2]
1
* ---------ALTIMETER OPTION (I1) - FOR VERTICAL WIND COMPUTATION
* 0 = PRESSURE ALTITUDE (OVER LAND)
* 1 = RADAR ALTITUDE APN-159 (OVER WATER)
* 2 = RADAR ALTITUDE APN-232 (OVER WATER)
0
* ---------PRINTOUT RATE  SECONDS (I2)
10
* ---------WINDSPEED/DIRECTION RUNNING AVERAGE TIME, SECONDS (I2)
10                                  ! FOR STANDARD TAPE OUTPUT ONLY
* ---------TIME OPTION (I1)
* 1 = MICRO 29
* 2 = TIME BASED GENERATOR #1
* 3 = TIME BASED GENEATOR #2
1
* ---------NAME OF CONSTANTS FILE EX CO3863.CON
CO3955.CON
*****************************************************************
```

NOAA FORM 59-4
(2-72)

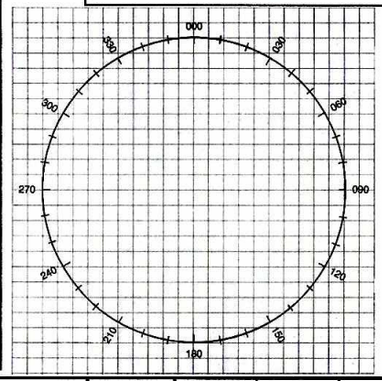
I950420

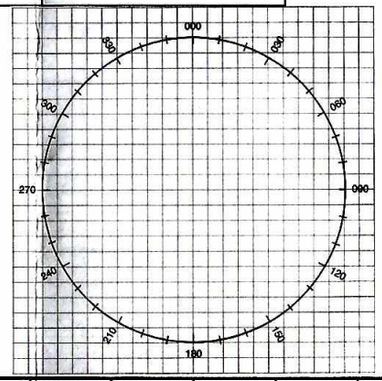
TIME	LAT	LON	TRK	HD	WD	WS	CA	GA	TA	TD	SP	PS		PO
172400	3520	9735	131	134	258	12	803	386	12.3	3.8	—	920.0	CLR	67.8
173340	ASCENT SOUNDING at PRC													
173900					245	43	2360	1990	4.5	-13.7				
174730	START DESCENT													
180400	end sounding													
180600	3503	9732	292	292	272	11	579	140	15.9	5.9	—	945.8	TO VICI	74.2
181600	3527	9805	310	308	261	10	644	143	14.3	4.5	—	938.5	TO VICI	66.9
182500	3543	9835	309	308	269	9	700	178	12.9	5.1	—	931.6	TO VICI	69.4
183500	3604	9907	20	18	252	8	799	140	13.4	3.3	—	919.2	TO HILLS	64.8
184500	3635	9843	33	32	268	12	705	177	12.4	3.0	—	931.4	TO HILLS	66.6
190000	3723	9803	32	32	265	12	729	186	12.0	3.4	—	930.8	TO HILLS	83.0
191350	3806	9727	33	31	276	11	667	148	8.8	4.6	—	936.4	TO HILLS	86.1
191600											TURN		TO MORRIS	
192000	3802	9709	156	160	257	15	660	155	10.9	4.9	—	935.6	WINDSHIFT	90.4
193000	3725	9649	158	162	268	15	636	140	12.6	5.3	—	934.2	TO MORRIS	80.4
194260	3643	9625	155	160	250	16	508	168	16.1	5.5	—	953.6	TO MORRIS	89.0
195000	3615	9615	182	187	245	17	484	173	17.4	5.4	—	957.6	TO MORRIS	79.8
200000	3543	9543	135	139	255	14	433	137	19.6	5.1	—	962.5	TO LMT	77.2
201000	3603	9623	299	297	251	10	538	164	17.1	5.0	—	952.0	TO LMT	73.6
202000	3622	9700	307	304	240	15	535	161	15.9	4.8	—	949.7	TO LMT	79.2
202700	at Lamont													
203200	ASCENT SOUNDING AT LAMONT													
204240	Sno balloon out right side of A/C													
204900					217	67								
205420	start descent sounding at LAMONT													
211500	end of sounding at LAMONT													
211700													TO MORRIS	
212100	3626	9710	118	122	263	14	512	117	16.1	4.9	—	949.1	TO MORRIS	60.3
213000	3608	9638	130	134	269	16	520	161	17.8	5.4	—	952.6	TO MORRIS	63.6
214000	3549	9604	126	130	249	14	500	166	19.8	3.4	—	956.1	TO MORRIS	55.7
214500													TO VICI	
215000	3543	9609	275	272	231	21	460	140	20.5	4.3	—	959.7	TO VICI	—
220010	3548	9650	285	283	253	16	579	170	18.9	4.4	—	952.8	TO VICI	71.2
221110	3556	9725	276	275	217	10	576	159	17.1	5.5	—	945.7	TO VICI	73.1
222000	3559	9813	277	278	136	1	598	156	12.3	6.1	—	942.7	TO VICI	64.1
223000	3603	9853	272	274	290	11	784	183	17.1	3.7	—	925.2	TO VICI	72.7
223300													TO PRC	
223400	3601	9905	126	127	291	9	810	174	17.2	1.9	—	920.1	TO PRC	65.0
224500	3538	9825	128	130	274	9	746	181	16.5	5.0	—	928.4	TO PRC	70.7
225500	3515	9748	140	144	264	13	628	136	18.8	5.0	—	939.9	TO PRC	67.9
230200	AT PRC													
230340	START ASCENT SOUNDING AT PRC													
231100				261	43									
				231	58				-43.9			300		
233915	STOP ASCENT													
234020	START DESCENT											400		
				251	47				-32.4					
001300	END SOUNDING													

CLEARANCES			
FREQ	ALT	HDG	OTHER

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
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 GPS	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
1709 1713																					ENG START TAXI
1720																					TAKEOFF
	GPS																				
1749		3500.4 9715.2	3501.1 9715.3	-.7 -.1	3501.0 9714.8	-.6 +.4															CIRCLING AT PURCELL
1835		3603.2 9907.0	3603.3 9907.1	-.1 -.1	3604.3 9907.0	-1.1 0			028	1R	029	212	305	8	2.5K	209					VICI
1915		3815.4 9718.5	3816.5 9718.7	-.9 -.2	3817.5 9718.2	-1.9 +.3			159	4L	155	239	281	18	2K	228					
2000		3542.9 9552.6	3542.4 9552.1	+.5 +.5	3545.2 9551.5	-2.3 +1.1			305	1R	306	212	320	6	1.4K	216					
2013		3838.2 9723.9	3839.1 9723.8	-.9 +.1	3841.3 9722.8	-3.1 +1.1															CIRCLING AT LAMONT
2144		3546.3 9549.7	3546.0 9548.2	+.3 -.5	3544.1 9546.5	-3.8 +3.2			271	4R	275	181	270	16	1.3K	199					
2233		3603.5 9905.8	3602.3 9907.4	+1.2 -1.6	3608.8 9904.0	-5.3 +1.8			124	0	124	218	035	2	2.4K	213					
2302		3458.2 9725.6	3456.7 9727.3	+1.5 -1.7	3502.4 9722.0	-4.2 +3.6															CIRCLING AT PURCELL
0009		3459.5 9725.5	3457.8 9728.9	+1.7 -3.4	3504.2 9722.3	+3.3 +3.2															
0024		3523.5 9736.5	3521.7 9738.6	+1.8 -2.3	3528.0 9731.2	-4.5 +5.1															LAND