U.S. DEPT. COMM./NOAA/OAO - DATA SECTION WORK FORM NO.1 OAOWF1 FILE

FLT ID: 960408H	FM: OQU	TO: OQU
FLT NO: 96-012	BLK IN: 0059	ATA: 0055
ETD: 1500 Z	BLK OUT: 1520 9.7	ATD: 1526
ETE: 00 Z	BLK TIME: 9+39/9.6	FLT TIME: 9+29/9.5
SPONSOR ORG: NOAA/AC	PROGRAM: OZONE 96	PURPOSE: Aerosols

OAO PERSONNEL

AC	KENNEDY ✓	SYS ENG	ROLES ✓
CP	PLAYER ✓	DATA SYS	DELGADO ✓
NAV	RATHBUN ✓ 82	RADAR	
FE	WADE ✓	DT/ODW	
RADIO		CLD PHYS	
FD	WHITE ✓	DOPPLER	

PARTICIPATING SCIENTIST/VISITORS/OAO

LAST,FIRST NAME	ACTIVITY ON A/C	AFFILIATION
HUBLER/HOLLOWAY	OZONE 96	CU-CIRES
RYERSON/SHERIDAN	Air Chemistry	"
GOLDAN/TRAINER	↓	NOAA/AC
JOBSON/WILLIAMS		"
WERT		CU
ZHOU		NY State DofH

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

35 31 010/ 29.89
+3 -0.5 1012 mb

"J" 3BB 33SCT MAO OVC 10 3732 080/5 29.96
+3 0° 1014 mb

960408 H

START 15/16 ~~07~~ 31
END 005800

BAD BLOCKS

15 32 : 08
15 32 : 10
17 40 : 47
: 50
0005 : 45
: 50

~~AU#2~~ AU#1 used

HD 1646 - 1919

Fix APN 159 spike @ T/O

INE#1 w/ GPS

160000	-0.4	+0.3
170000	-0.6	+0.5
180000	-1.9	+0.9
190000	-2.3	+1.5
200000	-1.9	+3.0
210000	-2.5	+2.7
220000	-1.6	+4.2
230000	+0.3	+5.0
000000	+0.5	+5.0
005800	+0.8	+5.7

```
TITLE (MAX 21 CHARACTERS) -- EX  HURRICANE PAINE
OZONE FLIGHT 9
YYMMDDL  FLT I.D.
960408H
HHMMSS START TIME   -99999 DEFAULT TO START OF DATA FOR PRINTOUT ONLY
151631
HHMMSS END TIME     999999 DEFAULT TO END OF DATA FOR PRINTOUT ONLY
005800
HHMMSS TAKE OFF TIME
152601
* NUMBER OF TAPES (I2) ...FOR STANDARD TAPE OUTPUT ONLY
09
* -------LOGICAL UNIT OF INPUT DATA (I1)  5, 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
1
* ---------ACCELEROMETER (I1) - USUALLY THE SAME AS YOUR INE SELECTION
1
* --------- 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)
1
* ---------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
CO2962.CON
**************************************************************
```

OZONE 96 FLT #9

FLIGHT #09 H960408

TYPE OF DATA	SENSOR OR OPTION
INE	1
Accelerometer	1
Temperature probe	1
Altitude change option (for vertical winds)	APN-159
Static pressure	Rosemount fuselage
Dynamic pressure	Rosemount fuselage
Time source	Micro 99
Constants file	CO2962.CON

Notes:

There were six time/data gaps: 1532:08 1532:10 1740:47
1740:50 0005:45 0005:50

Dewpoint temperature (TD) calculation on standard tape is +0.5 C higher than printout from aircraft due to a -0.5 C offset inadvertantly present onboard the aircraft.

Downward spikes in radar altimeter values were generated from 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	1011.0mb	1014.5mb
Corrected tower pressure	1012.0mb	1014.0mb

Flight Meteorologist: Sean White: (813) 828-3310 ext. 3072

NOAA FORM 59-4
(2-72)

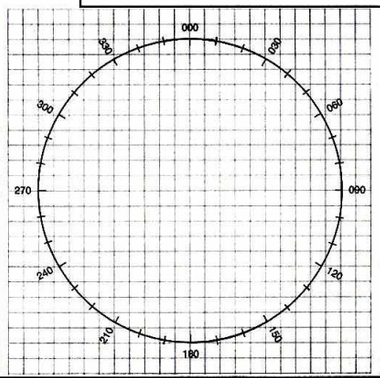
960408H

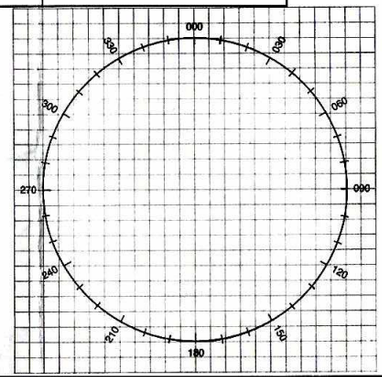
Time	LAT	LONG	TA	TD	WD	WS	PS	SP	Remarks
1520		ORH	3.0	-1.0	—	—	1010.9		Blk Out
1526			2.9	-0.7	350	10	1010.5	1011.7	T/O Base 1200'/3500' BKN
									Base @ 100'/4600' OVC
16			7.3	-8.1	262	8.7	—	—	descend 7000'
1616	@35.4	@58.4	-2.8	-3.9	140	27.7	—	—	level @ 7000'
1704	4452.9	6453.2	-7.4	-23.7	109	39.8	—	—	in btwn layers
1718:00	4533.9	6415.2	-8.3	-28.7	115	44.8	781	1011.6	descend 27.18
									Top: 6500'/bot 4500'
1724	—	—	-1.4	-5.7	073	22.1	965	1010.7	level 4000'
1748:07	4638.3	6444.6	0.6	-7.5	089	24.3	971	1017.7	climb
1817	4832	61 09	-38.1	-58.5	122	16	—	—	level 25k
1847:48	4950.7	5828.4	-37.5	-57.1	081	20.9	—	—	descend 18k
1903:04	5037.6	5716.5	-22.6	-42.5	061	16.8	—	—	climb 25k
1918:06	5120.1	56 10.9	-38.8	-52.7	020	27.5	—	—	descend 18k
1933:02	5140.6	564.9	-20.7	-40.7	012	18.1	—	—	descend 12k
1948:07	5132.6	5612	-12.1	-30.0	012	13.4	—	—	descend 6k
2003:03	5134.7	56 5.2	-3.6	-15.9	341	13.3	—	—	descend 500' AGL 30.21
		thin layer			2000'				1022 mb
2033:00	—	—	+.2	-5.3	100	13	1005	1024	climb 4k
2048:00	—	—	0.1	-35.0	058	14.7	—	—	descend 1k
2103:07	—	—	0.4	-5.6	047	13.6	—	—	↘500' ↗ 4k
2118:04	4945	5949.5	1.6	-14.6	027	21.5	—	—	↘1k ↗500' ↗ 4k
2133:05	—	—	-0.8	-7.3	087	11.1	—	—	↘1k
2148:00	—	—	-4.9	-12.8	116	38.8	—	—	↘500' AGL ↗ 6500'
2203:00	—	—	-0.2	+6.4	096	27.2	—	—	↘1k
2217:55	—	—	-7.9	-12.0	118	38.4	—	—	↗2800' Min Vect Alt
2230:11	—	—	-1.7	+6.4	063	22.2	—	—	↗climb 20k
2232:55	—	—	in	vecio	tops	4700'			
			out	↓	clds	17,200'	MSL		
2303:05	—	—	-27.5	-50.3	022	11.9			climb 26k
2317:59	—	—	—	—	236	33.3	—	—	descend 20k
	(2325	- 2331)	Vert	Vel	lg	for	no	Up/Down	
2351:28	—		circle @	Martha's	Vineyard				climb 26k
0004:21					254	65.5			descend to sfc
0035									LND

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	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
1515																					ENGINE START
1519																					TAXI
1525																					TAKEOFF
1548	GPS FM1	4125.Ø / 6949.Ø	4125.3 / 6948.8	-.3 / +.2	4124.8 / 6949.3	+.2 / -.3			Ø39	6R	Ø45	229	29Ø	24	9K	218					
1616		4237.9 / 68ØØ.9	4236.6 / 68Ø0.3	-.7 / +.6	4236.7 / 68ØØ.6	+1.2 / +.3			Ø56	8L	Ø48	232	156	34	7K	225					
1644		4349.2 / 66Ø6.7	435Ø.1 / 66Ø6.2	-.9 / +.5	4347.8 / 66Ø6.Ø	+1.4 / +.7			Ø51	12L	Ø39	222	13Ø	47	7K	226					
1725		4592.6 / 635Ø.2	4544.Ø / 6349.3	-1.4 / +.9	454Ø.Ø / 635Ø.2	+2.6 / Ø			944	6L	Ø38	195	ØØØ	2Ø	1K	217					
1819		4810.6 / 6Ø51.4	4812.6 / 6Ø5Ø.2	-2.Ø / +1.2	48Ø6.7 / 6ØØ51.1	+3.9 / +.3			Ø48	4L	Ø44	295	143	22	25K	293					
1855		5Ø13.7 / 5754.1	5Ø16.Ø / 5752.5	-2.3 / +1.6	5ØØ8.5 / 5755.4	+5.2 / -1.3			Ø48	4L	Ø44	255	1ØØ	22	18K	267					
1915		5113.4 / 5622.8	5116.Ø / 5621.Ø	-2.6 / +1.8	5107.6 / 5624.5	+5.8 / -1.7			Ø46	1R	Ø47	27Ø	Ø3Ø	21	25K	29Ø					
1952		5132.4 / 56Ø8.4	5134.6 / 56Ø5.6	-2.2 / +2.8	5126.Ø / 561Ø.1	+6.4 / -1.7															
2026		5124.2 / 5631.9	5126.4 / 5629.1	-2.2 / +2.8	5116.9 / 5637.1	+7.3 / -5.2			243	1R	244	21Ø	L		1K	2Ø7					
2109		4927.4 / 5919.8	4929.3 / 5916.Ø	-1.9 / +3.8	4920.2 / 5925.4	+7.2 / -5.6			219	2R	221	226	Ø65	16	4K	212					
2152		4724.Ø / 615Ø.1	4725.3 / 6145.8	-1.3 / +4.3	4716.2 / 6158.Ø	+7.8 / -7.9			21Ø	5R	215	218	1Ø3	2Ø	1K	211					
2250		4436.8 / 6524.2	4436.6 / 6519.5	+.2 / +4.7	4428.4 / 6533.2	+8.4 / -9.Ø			223	4R	227	271	128	2Ø	20K	268					
2312		433Ø.2 / 67Ø4.Ø	433Ø.1 / 6658.9	+.1 / +5.1	4322.1 / 6713.8	+8.1 / -9.8			229	1L	228	296	246	2Ø	26K	315					
2359		4129.5 / 7Ø1Ø.1	4129.Ø / 7Ø05.2	+.5 / +4.9	4122.1 / 7Ø2Ø.8	+7.4 / -10.7			252	2L	251	24Ø	259	5S	26K	296					
																	GRINDSTONE			2155	
																	CHARLOTTETOWN			2220	

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
~~0055~~		4135.7	4134.8	T.9	4129.7	±6.0															LAND
0058		7124.6	7118.9	+5.7	7136.4	-9.8															BLOCK
			4		11																

8141
0758
9739